

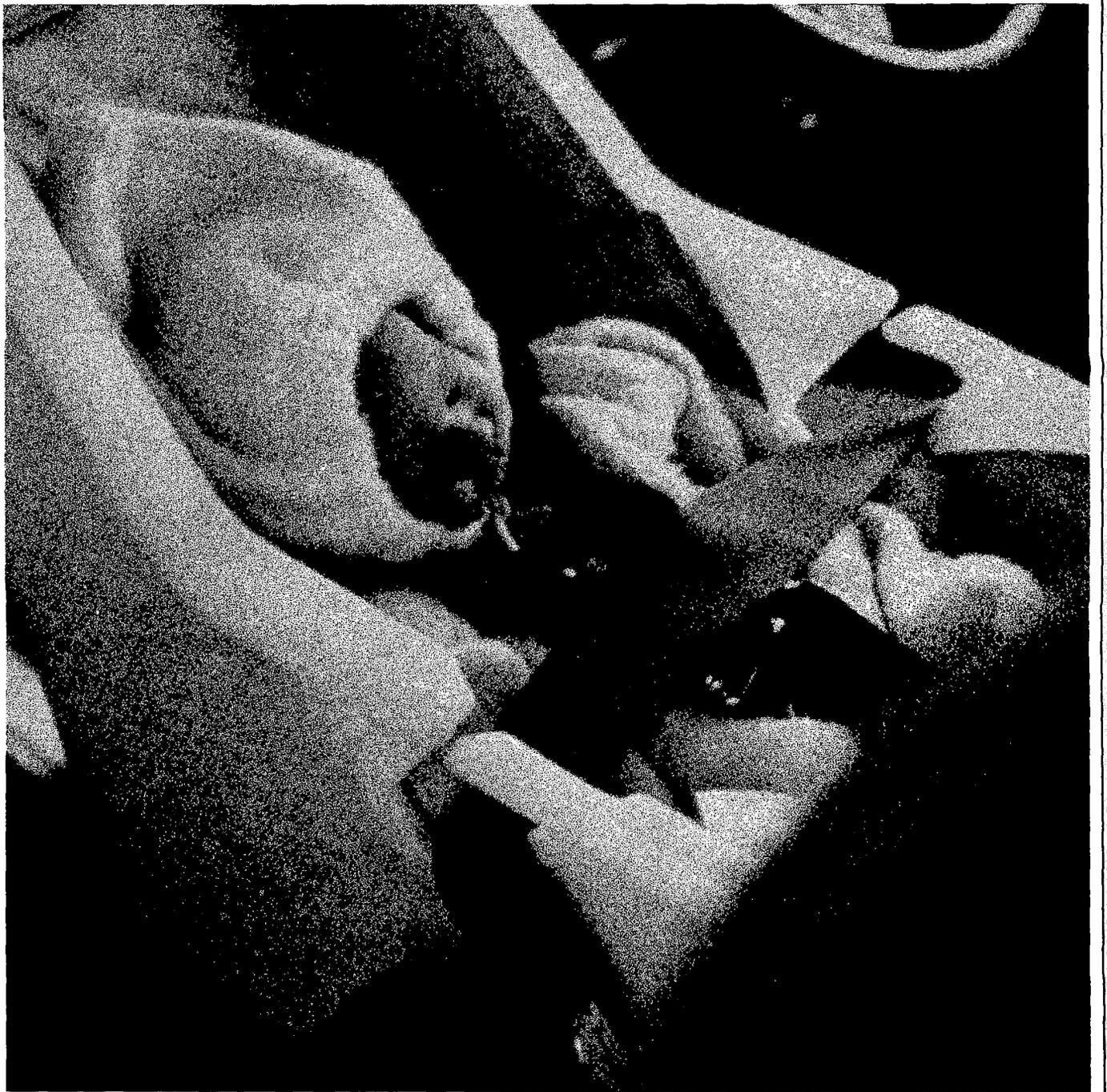


U.S. Department
of Transportation
**National Highway
Traffic Safety
Administration**

December 10-12, 1979

Proceedings of the National Conference On Child Passenger Protection

Washington, D.C.





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National Conference On Child Passenger Protection

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Endorsements

The following organizations have endorsed the goals of the National Conference on Child Passenger Protection:

Action for Child Transportation Safety;
American Academy of Pediatrics;
Highway Safety Research Center,
University of North Carolina;
National Association of Women Highway Safety Leaders;
National Safety Council;
Physicians for Automotive Safety;
Transportation Center, University of Tennessee;
U.S. Jaycettes

*Action for Child Transportation Safety provided technical support to the National Highway Traffic Safety Administration in planning this conference under contract NHTSA-9-6340.

Agenda

Monday, December 10, 1979

9:00-9:10 a.m.	<p><i>Call to Order/Introductions</i> Charles F. Livingston Associate Administrator for Traffic Safety Programs National Highway Traffic Safety Administration</p> <p>James L. Nichols Master of Ceremonies Traffic Safety Programs, NHTSA</p> <p>Elaine B. Weinstein Conference Coordinator Traffic Safety Programs, NHTSA</p> <p>Deborah D. Richards Conference Contractor Action for Child Transportation Safety</p>	noon-1:30 p.m.	<p><i>Luncheon</i></p> <p><i>Traffic Safety: A Family Affair</i> Jim Guy Tucker Chairperson, White House Conference on Families</p>
9:10-9:15 a.m.	<p><i>Welcome</i> Joan Claybrook, Administrator National Highway Traffic Safety Administration</p>	1:30-2:15 p.m.	<p><i>General Session</i> <i>Questions for the Industry</i> (The Child Restraint Manufacturers will answer questions submitted by the audience.)</p> <p>Moderator: Charles Hurley National Safety Council</p> <p>The Bobby-Mac Corporation Century Products Cosco Home Products Ford Motor Company General Motors Corporation International Manufacturing Company Questor Juvenile Furniture Company "Strolee" of California</p>
9:15-9:45 a.m.	<p><i>Individual and Societal Costs of Accidents Involving Children</i> Congressman Bob Eckhardt Chairman, Subcommittee of Oversight and Investigations Committee on Interstate and Foreign Commerce</p>	2:15-2:30 p.m.	<p><i>The Tennessee Child Passenger Protection Law: Two Years Later</i> Larry M. "Mike" Ellis Governor's Highway Safety Representative State of Tennessee</p>
9:45-10:15 a.m.	<p><i>The Public's Responsibility in Protecting Children</i> William Haddon, Jr., M.D. President, Insurance Institute for Highway Safety</p>	2:45-3:15 p.m.	<p><i>An Insurance Company's Perspective Unique Approach</i> Robert E. Vanderbeek President, League Insurance Companies</p>
10:30-11:00 a.m.	<p><i>Deaths and Injuries to Children As Motor Vehicle Occupants</i> Susan P. Baker, MPH Johns Hopkins University School of Public Health</p>	3:15-3:45 p.m.	<p><i>Accident Prevention As a Public Health Measure</i> J. Michael McGinnis, M.D. Deputy Assistant Secretary for Health, HEW (Disease Prevention and Health Promotion)</p>
11:00-11:15 a.m.	<p><i>The Pediatricians' Role in Child Transportation Safety</i> Seymour Charles, M.D. President, Physicians for Automotive Safety</p>		
11:15-noon	<p><i>Factors Influencing the Use of Restraints</i> B.J. Campbell, Ph.D, University of North Carolina, MODERATOR</p> <p>Christy Hughes, Ph.D National Safety Council</p> <p>Edward Christopherson, Ph.D University of Kansas Medical Center</p> <p>Deborah Richards Action for Child Transportation Safety</p>		

Concurrent Workshop Sessions

Tuesday, December 11, 1979

<i>Time</i>	<i>Public Policy</i>	<i>Education</i>	<i>Communication</i>	<i>Research and Evaluation</i>
9:00-10:00	Child Passenger Protection Your Legal Responsibilities	Child Restraint Education Programs: How Effective are They?	What Television Teaches Children About Car Crashes and Passenger Safety	Federal Standard 213 Governing Child Seating Systems
10:15-11:15	Product Liability: Considerations for Distribution Programs	Applying Health Education Techniques to Child Passenger Protection	Promoting Child Passenger Safety through the Media	Innovative Child Restraint Systems for the Future
11:15-12:15	What Avenues in the Health and Human Resources Area Exist to Promote Child Restraint Use?	Educating Parents and Children: Techniques to Stimulate and Promote Proper Use	Selling Passenger Safety to America	The Compatibility of Child Restraint Systems with Different Adult Restraint Systems and with Different Types of Vehicles
2:00-3:00	Issues to Consider in Determining Public Policy	Getting the Child Safety Seat to the Consumer	The Decision to Buckle Up	Restraint Use and Seating Position as Factors Influencing Injuries to Children
3:15-4:15	Coordinating a Comprehensive Statewide Child Passenger Safety Program	Distribution Programs: The Economics of Size	Using Public Information to Counteract Myths	How to Determine if Your Program is Effective
Moderator:	David B. Shinn Michigan Department of State	Forrest M. Council Highway Safety Research Center University of North Carolina	Christy Hughes National Safety Council	John W. Melvin Highway Safety Research Institute University of Michigan Allan F. Williams Insurance Institute for Highway Safety

Tuesday, December 11, 1979

<i>Concurrent Workshops</i>	
<p>Workshop 1</p> <p><i>Public Policy: Child Passenger Protection—Your Legal Responsibilities</i> (Civil and criminal liability issues will be discussed as they pertain to parents protecting their children and institutions, such as hospitals, providing or not providing information on child restraint use to parents)</p> <p>David Shinn, Michigan Department of State, MODERATOR</p> <p>Donald Bross, National Center for the Prevention of Child Abuse and Neglect</p> <p>John Lutzker, Southern Illinois University</p>	<p>Joseph Little, University of Florida</p> <p>Robert Miller, Jacobs and Miller Law Firm</p> <p>Workshop 2</p> <p><i>Education Programs: Child Restraint Education Programs—How Effective Are They?</i> (A discussion of program content and effectiveness in private physician, clinic, and hospital education programs)</p> <p>Forrest Council, University of North Carolina, MODERATOR</p> <p>Albert Chang, University of California at Berkeley</p> <p>Marshall Blondy, M.D. Metropolitan Associates in Pediatrics</p>

Workshop 3 *Communications: What Television Teaches Children About Car Crashes and Passenger Safety*
(The present portrayal of passenger safety in network programming will be discussed as it influences attitudes and behaviors)
Christy Hughes, National Safety Council,
MODERATOR
Bradley Greenberg, Michigan State University
Charles Atkins, Michigan State University
Dwight Fee, NHTSA

Workshop 4 *Research and Evaluation: Federal Standard 213 Governing Child Seating Systems*
(The impact of the new NHTSA standard will be discussed in terms of its effects on the consumer, manufacturers, researchers, and regulators)
John Melvin, University of Michigan,
MODERATOR
Annemarie Shelness, Physicians for Automotive Safety
Richard Hyde, Strolee
Robert Walker, GM
Quentin McDonald, Bobby-Mac
Paul Meiker, Century
Val Radovich, NHTSA

10:15-11:15 a.m.

Workshop 1 *Public Policy: Product Liability—Considerations for Distribution Programs*
(The legal protection of distribution programs will be addressed and problems such as insurance coverage, protection by disclaimers and potential lawsuits will be anticipated)
David Shinn, Michigan Department of State,
MODERATOR
James Edwards, League General Insurance Co.
Roni Tortorici, Jaycettes Buckle Up Babes Representative from American Insurance Association
Steve Oesch, NHTSA

Workshop 2 *Education Programs: Applying Health Education Techniques to Child Passenger Protection*
(A review of unique health education techniques that could be tailored for use in the promotion of child restraint programs will be presented)
Forrest Council, University of North Carolina,
MODERATOR
David Sleet, National Center for Health Education
Doug Woolf, Wyoming Department of Education

Workshop 3 *Communications: Promoting Passenger Safety Through the Media*
(Alternatives for improving the portrayal and reporting of safety to the public through mass media will be explored)
Christy Hughes, National Safety Council,
MODERATOR
Molly Pauker, Action for Childrens Television
Mary Beth Burkhoff, Chicago Rehabilitation Institute
Linda Kahn, Prime Time Television
Representative from Mr. Rogers Neighborhood

Workshop 4 *Research and Evaluation: Innovative Child Restraint Systems for the Future*
(New designs, foreign product compatibility with U.S. requirements, and restraint systems for the handicapped will be covered)
John Melvin, University of Michigan,
MODERATOR
Ernest Cooney, Wisconsin Department of Public Instruction
Barbara Kellerher, Calspan
Lawrence Schneider, University of Michigan
Joy Moon, Consumers Association of Canada
Norman Freiburg, Volvo
Heinrich Von Wimmersperg

11:15-12:15 p.m.

Workshop 1 *Public Policy: What Avenues in the Health and Human Resources Area Exist to Promote Child Restraint Use?*
(Health care systems, education curricula and other methods of reaching parents and children will be addressed)
David Shinn, Michigan Department of State,
MODERATOR
Janine Steveson, Michigan Department of Social Services
Minta Saunders, North Carolina Department of Human Resources
Ernest Cooney, Wisconsin Department of Public Instruction
Robert Vinetz, M.D., American Academy of Pediatrics

Workshop 2 *Education Programs: Educating Parents and Children— Techniques to Stimulate and Promote Proper Use*
(An attempt will be made to identify methods of reaching parents and promoting proper use by both parent and child will be discussed along with identifying techniques to persuade children to stay in the seats)
Forest Council, University of North Carolina,
MODERATOR
Edward Christopherson, University of Kansas Medical Center

Workshop 3 *Communications: Selling Passenger Safety to America*
(The application of advertising and marketing techniques to stimulate public awareness and support for child passenger safety will be discussed)
Christy Hughes, National Safety Council
MODERATOR
Neil Burns, Spicter-Marketec
Cheri Calvelo, Michigan Medical Society

Workshop 4	<p><i>Research and Evaluation: The Compatibility of Child Restraint Systems with Different Adult Restraint Systems and with Different Types of Vehicles</i> (Interfacing child restraint systems with automatic restraints and small cars, vans, and pickups, etc. will be the focus of this session)</p> <p>John Melvin, University of Michigan, MODERATOR</p> <p>Tom Terry, GM</p> <p>Roger Maugh, Ford</p> <p>Carl Thelin, Consumers Reports</p> <p>Michael Walsh, Calspan</p> <p>Val Radovich, NHTSA</p>	Workshop 4	<p><i>Research and Evaluation: Restraint Use and Seating Position as Factors Influencing Injuries to Children</i> (The potential to reduce injuries to children will be addressed as a function of seating position with different restraint systems)</p> <p>Allan Williams, Insurance Institute for Highway Safety, MODERATOR</p> <p>Susan Baker, Johns Hopkins University</p> <p>B. J. Campbell, University of North Carolina</p> <p>John Melvin, University of Michigan</p>
12:15-1:45 p.m.	<i>Luncheon</i>	3:00-3:15 p.m.	<i>Break</i>
2:00-3:00 p.m.		3:15-4:15 p.m.	
Workshop 1	<p><i>Public Policy: Issues to Consider in Determining Public Policy</i> (Considerations in the area of regulation or legislation of child restraint use will be addressed, such as enforcement, fines and negligence, public transportation of children of indigent families, etc.)</p> <p>David Shinn, Michigan Department of State, MODERATOR</p> <p>Mary Edelin, South Dakota House of Representatives</p> <p>Art Yeager, Physicians for Automotive Safety</p> <p>A. Stephen Dirk, Mayor, Ogden, Utah</p> <p>Mike Ellis, Tennessee Governor's Highway Safety Representative</p> <p>Robert Sanders, M.D., American Academy of Pediatrics</p>	Workshop 1	<p><i>Public Policy: Coordinating a Comprehensive Statewide Child Passenger Safety Program</i> (The administrative aspects of coordinating child passenger safety programs around the State, run by service clubs, hospitals, etc. will be discussed)</p> <p>David Shinn, Michigan Department of State, MODERATOR</p> <p>Hazel Holly, Traverse Bay, Michigan Child Passenger Safety Association</p> <p>Phil Deemer, Pennsylvania Department of Transportation</p> <p>Dianne Sontag, Tennessee Child Passenger Safety Program</p> <p>Vivian Giles, Virginia Association of Women Highway Safety Leaders</p> <p>Carol Iacavone, Massachusetts Safety Council</p>
Workshop 2	<p><i>Education Programs: Getting the Child Safety Seat to the Consumer</i> (Working on a local level with automobile dealers, and retailers to promote the sales and proper use of child restraints will be addressed)</p> <p>Forrest Council, University of North Carolina, MODERATOR</p> <p>Greg Sutliff, Sutliff Chevrolet, Harrisburg, Pennsylvania</p> <p>Ray Cohen, Independent Dealers Committee</p> <p>Cecelia DiCicco, Massachusetts Department of Public Health</p>	v	<p><i>Education Programs: Distribution Programs—The Economics of Size</i> (Problems related to the expansion of small distribution programs will be addressed in terms of choosing the correct seat, keeping track of the seats, etc.)</p> <p>Forrest Council, University of North Carolina, MODERATOR</p> <p>Margaret Lang, Boston Women's Hospital</p> <p>Carol Fast, Action for Child Transportation Safety</p> <p>Andrea Jacobson</p>
Workshop 3	<p><i>Communications: The Decision to Buckle Up</i> (A review of the characteristics of parents who do (and those who do not) protect their children with emphasis on the application of this knowledge to the design and effective public information programs)</p> <p>Christy Hughes, National Safety Council, MODERATOR</p> <p>John Lutzker, Southern Illinois University</p> <p>John Philpot, University of Tennessee</p> <p>Norman Frieburg, Volvo</p> <p>William Wilson, Teknekron Research Corporation</p>	Workshop 3	<p><i>Communications: Using Public Information to Counter Myths</i> (The myths related to restraint will be addressed with an emphasis on how public information materials can counter misinformation)</p> <p>Christy Hughes, National Safety Council, MODERATOR</p> <p>Annemarie Shelness, Physicians for Automotive Safety</p> <p>Julie Candler, Woman's Day</p> <p>Larry Kramer, The Washington Post</p> <p>Dwight Fee, NHTSA</p>

Workshop 4

Research and Evaluation: How to Determine if Your Program is Effective

(Appropriate research designs, methodology and evaluation criteria, will be discussed for measuring the effectiveness of education programs, distribution programs and usage rates)

Alan Williams, Insurance Institute for Highway Safety, MODERATOR

Bill Hall, University of North Carolina

Keith Reisinger, University of Pittsburgh

John Philpot, University of Tennessee

4:14-5:00 p.m.

Regional/State Meetings

Region I Richmond Room

Region III Arlington Room

Region V Alexandria Room

Region VII Dover Room

Wednesday, December 12, 1979

NHTSA Public Meeting: Child Transportation Safety

- 9:00-9:10 a.m. Welcome and Opening Remarks
- 9:10 a.m. Meeting Called to Order
THE SPEAKERS WILL MAKE THEIR PRESENTATIONS IN GROUPS ACCORDING TO SUBJECTS MATTER
- 9:10-10:05 a.m. GROUP I
Child Safety: Hazards and Solutions (An Overview)
- 10:05-10:45 a.m. GROUP II
Societal Costs of Accidents: Economic, Physical, and Emotional Impacts
- 10:45-11:30 a.m. GROUP III
Identification of Hazardous Vehicle Design Features
- 11:30-12:10 a.m. GROUP IV
Improving Child Restraint Use
- 12:10-1:10 p.m. LUNCH
- 1:10-1:55 p.m. GROUP V
Designation Innovations and Changes to Improve Child Safety
- 1:55-2:40 p.m. GROUP VI
Role of the Private Sector in Improving Child Safety:
What is being done;
What is not being done;
What can be done
- 2:40-3:20 p.m. GROUP VII
Preventive Safety Measures by the Medical Community
- GROUP VIII
Role of Education in Improving Child Safety
- 3:55-4:35 p.m. GROUP IX
Improving Child Safety Through Standardization of Vehicle Equipment
- 4:35-5:15 p.m. Group X
Child Pedestrian/Cyclist Safety
- 5:15-6:00 p.m. GROUP XI
Restraints for the Handicapped and School Bus Safety

Attendees

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Proceedings

Mr. Livingston: Good morning. I would like to welcome you to the National Conference on Child Passenger Protection. I'm Chuck Livingston, Associate Administrator for Traffic Safety Programs for the National Highway Traffic Safety Administration (NHTSA). We are meeting here today on the most important aspect of traffic safety: the safe transportation of children in motor vehicles.

It is one that is unanimously supported by people in all parts of the traffic safety community. It is an area that has gained increasing importance over the last few years in reducing the needless number of deaths caused by motor vehicle accidents.

The excellent attendance today is evidence of the widespread and growing interest in the protection of young children. We have represented here today, 49 of the 50 States, the District of Columbia, American Samoa, and three foreign countries. In the audience, we have legislators, journalists, consumers, researchers, manufacturers, and highway safety officials.

The three days of the conference and public meeting, have been structured to provide a forum for the exchange of information, recent research findings and technologies to promote the use of child seats and seat belts by young children. The first day of the conference will be formal presentations, while the second day is designed to stimulate discussion among you, the participants, in the various workshop sections. The third day is set up to hear testimony from you on what this agency can do to provide additional protection for children.

Putting together a conference of this size is a complex and time-consuming task. I would like right now to take the opportunity to recognize the individuals who have been responsible for organizing these three days. Deborah Richards of Action for Child Transportation Safety (ACTS) was under contract to NHTSA to provide technical support in planning the program. The workshop moderators, Forrest Council from the University of North Carolina, Christy Hughes from the National Safety Council (NSC), John Melvin from the University of Michigan, David Shinn from the Michigan Department of State, and Alan Williams from the Insurance Institute for Highway Safety (IIHS), have also put a considerable amount of effort into the planning of sessions.

Last, but certainly not the least, I'd like to recognize two

employees from the NHTSA who were responsible for coordinating the conference and public meeting. They are Elaine Weinstein and Karen Marcus. Both are quite involved in our State program and public participation activities and will be working with you in the months to come to expand passenger safety programs around the country. It is important that we keep as close as possible to our schedule today so that we are not late for the Capitol Hill reception. Those of you who have never been fortunate enough to experience Washington's rush hour traffic will have that opportunity today since we are on the other side of the city.

To assist our speakers in monitoring their time, we have erected a timing light on the stage. It will be operated by Jim Nichols, who will also be our master of ceremonies today.

Mr. Livingston: It is now my pleasure to introduce to you Joan Claybrook, who will speak about the NHTSA commitment to child passenger protection.

Ms. Claybrook: Thank you. There are countless youngsters to whom this Conference is dedicated—children who never had a chance to survive the auto crash in which they were killed. And there are countless more we hope will be the beneficiaries.

Even though they lived in different parts of the country, Rodney Hayes and Michelle Richardson had a lot in common. They were both three years old, their parents never bothered with child restraints and they both became fatality statistics this fall in automobile crashes in which they should have survived.

Like millions of children do every day, Rodney Hayes of Ocala, Florida, obligingly hopped into the family car one October morning to go with his mother on an errand. There was no child seat in the Hayes' car and, of course, three-year-olds don't know how to buckle themselves into seat belts, particularly when their parents don't set an example by wearing belts themselves. Moments later, Rodney's life came to an end when another car crashed into his at a nearby intersection.

Two thousand miles away, in Des Moines, Iowa, Michelle Richardson was killed when the station wagon her father was driving struck another car. The impact ripped off the door on Michelle's side and she was thrown to the pavement where she died of massive head injuries.

We all are horrified when we read about child abuse. We are particularly offended when an adult harms an innocent and defenseless child. But we rarely articulate the same sense of outrage when we read a news account of a youngster killed or injured in an automobile crash, when there is a readily available and effective solution that could reduce deaths and injuries to children by 50 percent. Perhaps we should recognize that failure to properly belt-up children when riding in a motor vehicle is another form of child abuse. This sin of omission is just as deadly as an offensive act.

Americans spend millions of dollars every year protecting themselves from the unexpected. We put locks on our doors to discourage burglars. We immunize our children to prevent disease. We visit the dentist to guard against tooth decay. Yet we do very little to protect against the constant threat of death or injury in an automobile crash.

The responsibility for child safety is not unilateral. It's too easy to say: "It was the parent's fault. They know the dangers but did not restrain their child."

While parents clearly have the primary obligation to insist on use of child restraints or seat belts, there are a lot of other people who should be helping but aren't. Maybe the community has never initiated a safety belt loaner program, and there are no local groups advocating automobile safety programs. Perhaps the State has made child restraints a low priority among the many important safety programs it promotes each year. Maybe the cars are not built as safely as they could be, and maybe the auto dealer never mentioned the need to protect kids in cars.

Maybe the insurance company never indicated there was any problem with transporting children without restraints, and maybe the pediatrician didn't add child restraints to his list of do's and don'ts for the new mother. And, finally, maybe there has not been enough national direction from those of us in Government or the media, or private organizations who are responsible for spreading the word.

The point is, many parents do not recognize the danger of auto crashes nor are they fully aware of the protective benefits of child restraints. Indeed, the chances are they don't wear safety belts themselves.

Our goal must be to get everyone to know what we know about the value of occupant restraints, not only for children but for all vehicle occupants. That's why we are meeting here today. You are the leaders who have the ability to achieve this long overdue goal.

We have a tremendous amount of work ahead of us. The problem is so great that we must explore all technological and nontechnological solutions. We need not only safety belts, child restraints, and air bags, but we also need programs to make the public sensitive to the need for them and how to use them properly.

A few years ago there were still arguments about the priority to be accorded different restraint systems. There were quibblings over what kind is best, or most needed, or most deserving of our attention. Today, there is general recognition that the best restraint system is the one the person will use and the public ought to have a choice of different types. To support this view, there is overwhelming evidence that child restraints, safety belts and air bags all save lives and dramatically reduce injuries in auto crashes.

In what I think was a dramatic showing of harmony, a number of diverse organizations, including the NSC, the Motor Vehicle Manufacturers Association (MVMA), various insurance associations, the American Automobile Association (AAA), the Seat Belt Council (SBC), as well as the Department of Transportation (DOT) and others last summer joined together and announced their support and participation in a voluntary confederation to encourage public understanding and use of automobile occupant restraint systems.

The objectives of this group are: To pool information about past, present, and planned activities of member organizations on safety belts, child restraints and automatic restraints, and to improve coordination among groups and organizations sponsoring restraint use programs.

In announcing the confederation, members of the groups also released a document entitled, "A Resource Guide to Automobile Occupant Restraint Materials." Its purpose is to provide all interested parties with a compendium of available materials designed to inform the public of the benefits of restraint system usage. I urge you to avail yourself of this excellent guide.

In the last several years, we have significantly increased our knowledge of the public's view of occupant restraint systems and of their lifesaving value. While most people are concerned about the possibility of being killed or injured in a crash, only 25 percent claim to wear belts all or most of the time and that figure is probably high.

We know from extensive observational surveys that only about 14 percent of the public regularly wear belt systems, while only about 8.5 percent of those who are involved in crashes wear them. And 93 percent of young children regularly ride completely unprotected. We know from our survey last fall that the usual reasons cited for not wearing belts is that they are uncomfortable and inconvenient.

We found that most people experienced at least one comfort or convenience problem in all of the cars tested. Based on these studies, we wrote to the automobile manufacturers and urged them to voluntarily improve the design of their belt systems, and we initiated work on some comfort and convenience requirements for future belt systems which will be issued shortly.

During the last several years, manufacturers have been working on designs for their automatic belt and air bag systems and they have made important strides. Significant improvements have been made in automatic belt design, with some companies creating effective three-point automatic belts. In another rewarding success story, General Motors recently announced they had succeeded in redesigning their air bag system to protect unrestrained children in various positions as well as adults.

We have also documented experience on the public roads with production automatic restraints and found fantastic results. There was a reduction in fatal and serious injuries of 35 to 50 percent compared with similar cars with manual belts that unfortunately are so seldom used.

Just last week, the Department issued the new child restraint standard; and on Wednesday, we will be considering a number of proposals for further simplifying the use of child restraints in active as well as automatic belt cars and for better protecting kids in cars generally. A major challenge facing all

of us, but particularly the child restraint system manufacturers, is to make systems that are not only safe in a crash, but are easy and foolproof to use.

Indeed, we have recently seen several new child restraint designs from Australia and Japan that show important progress in this regard.

In addition to issuance of the new child restraint standard which for the first time covers infant systems as well as child restraints, and requires dynamic testing to simulate an accident, we have taken a number of steps designed to support your efforts at the community level.

We have asked the automobile manufacturers to drill tether anchorage holes for easier installation of top tether straps and to encourage the automobile dealers to provide installation.

In September, we launched a nationwide public information campaign and dedicated that month as Child Transportation Safety Month. Printed materials and public service television spots on child restraint usage and pedestrian and bicycle safety were distributed to over 2,000 newspapers, radio, and television stations. In support of this effort, the National Automobile Dealers Association distributed 21,000 posters on child restraint use for display in the showrooms of their member dealerships.

We are continuing to work with the dealers and the automobile manufacturers to ensure that information on the compatibility of different model cars and different types of child restraints is available to the consumer.

We plan to produce three public service TV spots in 1981 suggesting child restraints as presents for baby shower gifts, toddler's birthday presents, and as Christmas gifts. We also will be preparing a comprehensive film concerning the safe transportation of children. The film will cover the need for child restraints and how to use them with both manual and automatic restraint systems.

In the past year, we conducted a series of ten regional workshops on child restraint use which many of you attended. The workshops were designed to improve the effectiveness of grassroots organizations by providing them with current resources so that they could coordinate their efforts within the States to promote child passenger safety on a larger scale.

We intend to expand our future child safety workshops to allow more people to participate.

We have encouraged States to use our grant-in-aid funds for occupant restraint programs. The money can be used for a wide variety of activities such as loaner programs, hospital education programs, or to evaluate the effectiveness of various efforts.

All of us should be excited about the accomplishments during the last several years. Many of you are to be complimented for your extensive activities, and we hope that the awards tomorrow help to convey the appreciation we all feel for some of the outstanding programs. We encourage other States to follow Tennessee's example and enact legislation requiring special protection for young children in cars.

We also urge State and local officials to use our grant funds to initiate aggressive public information and education programs, as has been done in some States, to increase public awareness of the need to use child restraint systems.

There are a number of other worthwhile activities which you will discuss tomorrow in the workshops such as: auto dealers should be asked to prominently display booklets and posters about child restraints and explain their value to customers; information on child transportation safety should be in hospital maternity wards and restraint devices stocked in the hospital gift shop; prenatal classes should routinely emphasize the use of restraints as an important part of child care; pediatricians, as well as other physicians, should be encouraged to speak to parents individually about the need to use restraints; literature should be made available for State Fairs, shopping malls, supermarkets, department stores, automobile dealerships, and other appropriate places to illustrate the child safety problem and the effectiveness of restraints; local television, radio, and print media should be approached regularly and encouraged to become involved in educating the public in this area; loan-a-seat distribution programs should be inaugurated as an extremely successful means of getting restraints to reluctant consumers. Parents who may hesitate to pay \$35 to \$40 for a child restraint are often delighted to rent one for \$15.

These types of programs and many others are possible. Particular activities already in operation in Michigan and New Jersey deserve special mention.

The largest car seat rental program operates out of Borgess Hospital in Kalamazoo, Michigan. Nine hundred seats are currently in circulation and there is a long waiting list. The seats are rented to parents for two cents a day. This prompted the slogan, "Give two cents for your child's safety."

Borgess also has as part of its pediatric preventive medicine program and educational information on auto safety that is given to hospitalized children up to the sixth grade level.

The New Jersey Hospital Association and Division of Motor Vehicles sponsor an education program in the hospitals to teach new mothers about protecting their babies in automobiles. The volunteers from the Infant Auto Safety Car Seat Program show the mothers a filmstrip, demonstrate the proper way to install a child restraint device and secure an infant in it, give the mother a brochure on child restraints, and answer any questions she may have.

Shortly before the mother is discharged, the volunteers present her with a small display card which reinforces the safety messages of the earlier meetings.

Nearly 140 people are killed in traffic accidents every day. That adds up to more than 50,000 lives: fathers, mothers, grandparents, sons, daughters, sisters, and brothers. Every one of them is important to somebody. It's reached the point in this country where one in 60 infants born today will someday die in a traffic accident, and two out of three will be injured.

In this age of computers, it's easy to talk in statistical language and forget we are talking about people. But statistics don't begin to tell the real story. It's time we started speaking about motor vehicle crashes in human terms, in terms of Rodney and Michelle.

By considering only the statistics, we are acknowledging the problem, but ignoring the aftermath. What happens to the family and friends who live to tell about an accident?

What about the homes that are lost because the mortgage money went to hospital bills? What about the young child who no longer has a mom or dad? What about the shattered lives, hopes, and dreams?

For some time now, we have been taking a hard look at these human consequences. We clip and read accounts from newspapers across the country to associate human beings with the numbers and to create a mental picture of the extent of the tragedy.

We also undertook a preliminary study entitled, "Auto Crashes: The Repercussions for the American Family," which found that even less damaging injuries obtained in crashes can have a devastating effect on our lives. We also learned that many recent crash survivors, still overcome emotionally, are extremely reluctant to talk about their experience.

What stands out from the newspaper clippings and our analysis of the fatal accidents reported by each State is the tremendous loss of young people. Over half of those killed each year are under 30 years of age, cut down in their most productive years when, in many cases, the loss could have been prevented. Their sudden deaths have catastrophic consequences for the families they leave behind.

Reading these accounts is all the more dispiriting when you know that built-in safety, such as has been designed into a number of experimental safety cars, and the use of restraint systems, could result in many occupants walking away from the crash.

This gathering culminates a year in which we have focused special attention on protecting youngsters in motor vehicles through improvements in technological performances and enhanced community awareness. As the International Year of the Child draws to a close, I think we should renew the spirit behind this special designation.

We hope to make every year the Year of the Child at the DOT. Child passenger safety is a particularly important part of the overall drive to protect all passengers because children who learn to use restraints early in life are more likely to continue using them as they grow older and are the best catalyst to get their parents to use them as well.

We especially appreciate the efforts made by the members of the planning committee who first came to Washington exactly one year ago to arrange this meeting in cooperation with Elaine Weinstein and James Nichols of the NHTSA.

By sharing technical information and ideas for education programs, restraint rental or loan programs and legislative activities, we hope that you will spread these programs throughout our communities nationwide.

We have heard a thousand times that our children are our future. It is up to us to do everything we can to guarantee that there is a future for our children.

Thank you.

I would like to take this opportunity now to introduce the next speaker for the Conference, Congressman Bob Eckhardt. I am one of his great admirers, as he knows. So, it's a privilege to be able to say a few words about him.

He is from Texas and is Chairman of the Subcommittee on Oversight and Investigations. His concern with auto-

mobile safety is a long-term one and it led to his writing the Motor Vehicle Information and Cost Savings Act in 1972. Among other provisions in that statute are the requirements that the agency conduct crash testing of automobiles so that there is comparative information available on crash worthiness as well as damageability and maintainability for the public. As you know, we are trying to get that program moving.

In 1977, he was responsible—as Chairman of the Consumer Subcommittee of the House Commerce Committee—for reviewing and reporting on the proposed car seat restraint standards; and in May of this year, he held a special hearing on Child Restraint Systems. It is really a delight to have him here. He is known as the "wordsmith of consulate representatives" because of his precise capabilities to create legislative language and history. A talent that not many of the other members have.

So, it's a pleasure to be able to introduce him. He is going to talk to us about the individual and societal costs of accidents involving children.

Congressman Eckhardt: Thank you for your kind invitation to speak to you today on the subject of child safety in automobiles.

The importance of this topic cannot be overstated, in my mind. We are talking about the lives and well-being of our youngest and most fragile riders in automobiles.

What have we done to protect them? Not much up until recently, from what I learned in my Subcommittee's hearings on this subject in May of this year. Most of the raw statistics may already be familiar to most of you, but they were a shock to me.

Of all the children riding in cars, only 7 percent of them are protected *in any way* from the forces of a crash. Of those, only half are properly protected—that's only 3½ percent of young riders! The result is that there are a thousand deaths a year among just the birth to five year old children, and countless more serious injuries. This makes automobile accidents the leading killer of children in our society.

We have made such strides in reducing deaths from polio, diphtheria, and other childhood illnesses, and yet we let children die and suffer on our highways, in ways that are just as preventable as are the diseases we have conquered.

It isn't that we don't have protection for these children, either. We have plenty of protection available. First, of course, we have the belts provided in cars. For a child above the age of about four, the belts are very effective. For the child who can sit up, the lap belts are a good emergency protector against being thrown into dashboards and windshields.

There are also safe, effective, and easy to use specially designed "child protectors"—car seats—for the little ones from birth to age four. I understand there is even one for older children which will be displayed here and at this evening's reception. These seats give excellent "packaging" for the child, holding him out of harm's way in side and rollover crashes as well as in frontal accidents. Not only that, but many of the seats provide a little personal living environment—there is a place to rest the hands if the seat is a shield type; and there is often a corner someplace on the outside of such seats where the child can store and retrieve a bottle or toy.

Besides the child seats, there is another kind of protection, at least a minimal kind, which is also almost never used. That is the back seat of the car itself. That is the safest area of the vehicle, and parents should at the very least insist that children ride there. That is even the law in several European countries.

Nonetheless, we keep finding little accident victims who were riding free in the front seat, or standing up against the dashboard. Children are properly protected in crashes only one-quarter as often as the adults riding in those cars. That means, incredibly, that many of the parents who are seat belt wearers are leaving their own children unprotected!

Particularly in this International Year of the Child, some very strenuous activities are underway. Of course, many of you have been working at State and local levels—passing a law in Tennessee, working on them in other States, and pursuing educational projects for some years now, but the energy seems to be gathering and focusing this year.

DOT, which is sponsoring this Conference, has similarly put much time and effort into regional workshops and educational efforts all over the country this year, to bring the message home that there are problems that can be shared and techniques that can be developed. Many of you have participated in these workshops, have developed your own educational programs, have worked on getting legislation considered, have developed loaner programs, and have done many other things of which I am not even aware.

In a related area, DOT and the manufacturers of car seats have been working to upgrade the crashworthiness of those seats.

More than 80 percent of the seats on the market now meet the proposed new standard, which would set dynamic rather than static testing requirements for the equipment.

But a very great deal still needs to be done, as is sorely evident from the statistics with which I started. As a beginning point, I would urge you to consider the staggering cost of those thousands of deaths and tens of thousands of injuries every year. In terms of mere money, the hospital cost can bankrupt a family—or alternatively push up medical insurance premiums. One day in a hospital now costs \$250 for base rate. When we consider the special services required in shock-trauma units and for emergency care, the base rate will certainly more than double.

But more important than money, or even than chronic understaffing of the hospitals and emergency facilities, is the nonmonetary cost of accidents. Those of you in the enforcement and medical fields particularly will understand the pain to whole families from an accident. There are long-term psychological effects to a two-year-old being in great pain and forcibly separated from his family, alone in a hospital on an emergency basis. There is the pain of a permanent serious disfigurement, or epilepsy, that a small child will have to live with the rest of his years. There is the disruption of families which can arise out of severe strains on its members. All of these are nonquantifiable things, which cannot be given adequate consideration in making the kinds of choices we make for our society. Our societal goals must be to work to limit as far as possible these kinds of harm to our members.

The question is how to further promote safe car-riding by our young members—safe “packaging” of these little ones who are so much at our mercy.

First, we have education at our disposal. This is often seen as a rather hard course to pursue, partly because it has not worked too well so far to promote adult use of restraints. In my Subcommittee on Consumer Protection and Finance last Congress, I held hearings at which considerable testimony was presented showing the steady decline in belt use, despite some impressive attempts at education. But I think there are significant differences between adult belt use and promotion of proper child protection. In Tennessee, education has raised child protection to about 20 percent, well above the 14 percent adult belt use rate.

The most important difference between promoting adult restraint and child protection, of course, is that adults have a choice to make—children do not.

Any protection that is not provided to them cannot be remedied by them. The corollary to that is that small children are completely our charges, and in a sense we have no right not to protect them.

Another very practical argument for having children in car seats is that a child is often much better behaved in a car seat than he is if he is allowed to roam free around a car. He has his own special place, often with little nooks, crannies, and shelves at just his height. And he is generally higher up on the seat and can see out of the car better. In addition, a child who is in a car seat or a belt by definition cannot be clambering around and getting in the way of or distracting the driver. Nor does the driver have to think about holding the child back when he brakes or swerves suddenly. That makes for a much safer car.

Finally, protection can be pitched as a very inexpensive thing, particularly if parents make use of the rental programs being developed. In my May hearings, we heard from the Borgess Pediatrics Preventive Medicine Program in Michigan, which loans seats out for two cents a day. We also heard from the League Insurance Company, also of Michigan, which has a program to give away car seats to its insured families with small children.

The thing that is most important in any education program, though, is the realization that an adequate commitment of time and funds must be made.

Another avenue for increasing the protection of children in cars is mandatory use laws, and these have been considered in several States. Tennessee passed a law more than two years ago, and I would like to know more about how it is working so far. I am not pleased about the “baby-crusher” exemption which permits a child to be carried on an adult’s lap, but at least the use of safe child seats has increased in that State, first through education and now through some enforcement. I would like to see if a “semi-voluntary” program such as Tennessee’s, which has been combined with a strong educational element, can raise the levels substantially higher.

The other major avenue for increasing child protection, and one that *must* be taken whichever other routes are pursued, is the aggressive development of a general sense of safety consciousness in this country. That means pounding at people every chance you get, and from all different angles. If people are aware that belts save lives, then they will not let their kids roam loose in the car. Many of these issues feed on each other.

For example, coming up this week is yet another vote on

the question of whether DOT's Standard 208, the Passive Restraint Standard, should be supported or not. As I am sure most of you know, the standard is scheduled to go into effect in 1982, and there has been a steady stream of attacks against it since it was promulgated. I believe those attacks are partly motivated by the belief that if one such standard is knocked out, others will not be promulgated or will be slowed down significantly.

To my mind, that fight must be won, or we keep perpetrating the myths that "safety doesn't sell," and "anything the government says must be bad."

There is another myth out there too, which I hear from time to time. It says, "If you get one safety system in, it will discourage people from using any other available ones." I think that makes no sense. The only way to convince people that safety sells, the only way to have safety become an important element in our decisions about the speeding bullets we people ride around in, is to actually go out and *sell* the idea that it is important to think safety and buy safety.

Thank you.

Ms. Claybrook: Our next speaker is really one of the leaders in this field, as I am sure many of you know. Dr. William Haddon was the first administrator of this agency and since 1969 has been the President of the IIHS. He has written several books on highway safety that brought together information in a way that the public and researchers in this field could become knowledgeable about the whole concept of automobile safety and how to analyze those issues.

He was instrumental in bringing together the conceptual relationship of highway safety time issues and the analytical framework for the precrash, crash, and post-crash phase of highway safety. He has really set the standard for much of the work that has been done since the mid-1960's.

At the IIHS, he has been a persistent advocate of automobile safety improvements, for restraint usage, the development of technologically better restraint systems, the improved crashworthiness of vehicles, generally, improvement of bumper systems and time after time, day after day, week after week, issue after issue of their publications and special reports, Dr. Haddon has pounded away at the ways and opportunities for improving highway safety.

So, it is a great pleasure to have with us Dr. Haddon.

Dr. Haddon: It is a pleasure to be here and particularly to see so many people here. There was a time not far in the distant past when there were not nearly as many people, such as yourselves, interested in this subject. That's very gratifying and I think it will be effective in a way that most of us will never know.

Our family cars are packages in which we ship commodities too precious to be priced—ourselves and our children. For a variety of often irreversible causes, these same cars predictably are getting into crashes by the tens of millions each year.

When they crash, these packages shield—or fail to shield—their priceless human contents from fatal or serious injuries. How well or poorly they perform in protecting people has already been determined, by the time a crash takes

place, by the prior actions of car designers and manufacturers, government legislators and regulators, and the people who buy and use cars throughout America.

There is no physical reason why most of these crashes, including the more violent ones, should result in death or serious injury. As is no surprise to any competent automotive engineer, the technologies have long been available to provide in all sorts of crashes—whether frontal or side, rear or rollover—protection against fatal and serious injuries far superior to that provided in today's vehicles. In the crash of a properly designed automobile, few occupants would be ejected, smashed about inside the car, crushed or bludgeoned by the passenger compartment's collapsing about them, or burned. This is equally true of vans and pickup trucks.

In this respect there is not much difference between adults and children, other than infants who cannot yet sit up and, therefore, need special restraints. Essentially, what works to get a 30-year-old woman through a violent car crash without death or crippling injury also will work for a four-year-old boy. A properly designed car will keep both from being ejected; it will collapse in on neither; its restraint systems will hold both in place; its fuel system, by resisting rupture, will protect both from the possibility of burning to death. In a basic and very important sense, then, there is no "child restraint" or "child protection" automobile problem. Rather, there is a human protection problem—one which, as energy shortages result in cars becoming smaller and the pre-car occupancy rates increasing, will get even bloodier as things now stand.

In another sense, however, it is useful and important to look discretely at children and at what happens to them, needlessly, in car crashes. Unlike adults, children have little to say about the levels of protection they will or will not receive in car crashes. They do not design cars; they do not regulate the safety performance of cars; they do not build highways; they do not know that it is important to use the manual restraint systems now in cars, and to demand passive restraint systems that, shamefully, are still not widely available even as options. In short, in car crash protection as in other matters of health, children must rely on the decisions of the adult world. Unless the adult world demands cars that will protect people in crashes, children will continue to die and be injured needlessly. Unless the adult world exhausts every available avenue for including the use of the manual restraints now in cars, children will continue to needlessly suffer. Unless the adult world insists on automatic restraint protection in future cars, children will continue to be needlessly damaged.

They have no choice. You, however, do have a choice, as you recognized in accepting the invitation to participate in this conference. You know that something is wrong, that thousands of children are being killed and tens of thousands seriously injured in car crashes each year, and that the carnage is inexcusable and avoidable.

What can you do about it?

First, understand that the problem involves not just putting children in belts or child restraints—important as that is—but the much broader, more basic need to package people, by a combination of approaches including restraint systems, so that they will far more often come through crashes without fatal or serious injury.

If you were shipping an expensive miniature porcelain doll—whether of an adult or a child—how would you prepare the shipment? Knowing that post office and express shipments at best may get rough handling and, at worst, very violent treatment (although not normally as violent as a car crash), you would:

- Provide a package that was not only as crashworthy as necessary, but that also assured a substantial additional margin of protection—a package sturdy enough to resist penetration or bursting open on impact, yet with smooth, soft, energy managing material inside to reduce the forces of such an impact on the precious contents.
- Restrain the doll—that is, hold it in place (with plastic foam, excelsior or similar material)—so that it would not be smashed about in the package in an impact.
- Seal the box so that even were dropped or thrown about violently in transit, the contents would be protected against ejection, and therefore against being smashed to pieces against the pavement or the shipping-room floor.

By following these principles in designing, building, and using our highway crash packages, we could do as much to protect real children (not to speak of adults) against damage—to prevent not the breaking of porcelain and the loss of a few dollars, but the smashing of bones and flesh and the resulting incalculable pain, grief and cost to the hurt people, and to our country.

(It is a sad commentary on us that, though we have for centuries well understood these principles, and applied them routinely in the packaging and shipping of our worldly goods, we have neither long enough understood them nor yet cared enough to apply them sufficiently when it has come to packaging and shipping ourselves and our children.)

Second, look for yourselves at the kinds and levels of highway crash protection available in cars on the roads and in showrooms today. How well will those vehicles—those crash

packages—shield you and your children in collisions? Are you willing to accept cars whose doors will commonly fly open or cave in during impact? Whose interior structures will often batter or spear occupants even in lower-speed impacts? Whose fuel tanks will be capable of rupturing and spilling highly flammable gasoline?

In illustration: More than 12 years ago Federal Motor Vehicle Safety Standard (FMVSS) 201 was issued to require that interior automobile areas likely to be impacted by people in crashes—instrument panels, seat backs, sun visors and arm seats—would perform so as to minimize the chance of injury to those people. FMVSS 201's intent recognized that, in simple terms, human bodies are much more frequently and severely damaged when they hit sharp, protruding, edged, hard or pointed structures than when they hit flat or gently contoured, energy-absorbing structures. Instinct tells us that, given a choice, we would rather have our faces hit a cushion than a rock or the point of a spear. FMVSS 201's intent was to see that in crashes, major interior structures of our cars performed more like pillows than spears.

But despite FMVSS 201's long life, its intent still has not been sufficiently achieved. Auto manufacturers successfully have resisted attempts to have FMVSS 201 applied to critical areas of the instrument panels—especially to areas that, tragically, are in the paths of the bodies and heads of front-seated children in frontal collisions.¹

In order to demonstrate how inadequate the requirements of FMVSS 201 are, the IIHS recently examined a number of 1979 and 1980 car models. Here are some examples of what we found. Note that most of the surfaces and structures of the instrument panels of these cars are *not* covered by FMVSS 201 or any other Federal standard currently in force. Such areas are not even required to be padded, let alone be free from hostile knobs aimed at children's faces.

Each of the cars shown in the following figures meets the requirements of FMVSS 201. Yet in almost every car, the dashboards are cluttered with hostile, protruding structures.

The instrument panel of this 1979 Chevrolet Impala was so designed by the manufacturer that only a very small area (see arrows) must meet the requirements of the standard. The



Figure 1. Instrument panel area covered by FMVSS No. 201, 1979 Chevrolet Impala.

remainder is exempt—with the result that radio knobs, air temperature controls and a protruding cigarette lighter are placed where a child might impact them in a crash.

The instrument panel of this 1979 Ford Fairmont shows that results of a similar design decision. Only the small area needs to be free of hostile structures.

Slightly more of the instrument panel of the 1979 Oldsmobile Cutlass falls under FMVSS 201—but not enough to eliminate the protruding radio and air temperature controls in the console area.

A closer look at the hard protrusions in the instrument panel console of the 1979 Oldsmobile Cutlass.

Since the area under the instrument panel is not covered by FMVSS 201, the 1979 Plymouth Horizon is allowed to include these protrusions, which could be in the path of a tumbling child in a forward impact.

The 1979 AMC Spirit instrument panel meets FMVSS 201—yet is adorned with protruding hard radio knobs, air temperature controls, and a lighter knob. In addition, hard protrusions have been placed under the panel.

It doesn't need to be that way, as the instrument panel of

the 1980 Chevrolet Citation proves. GM designed the panel of this X-body car so that much of its face would have to meet the requirements of FMVSS 201 and, therefore, be free of hostile structure. And, on its own, it left the remainder of the passenger side instrument panel uncluttered with knobs or other protrusions.

Ironically, this 1980 Pontiac Phoenix—also an X-body car manufactured and sold by GM—is designed to that the dashboard meets FMVSS 201 yet is literally a nest of hazardous structures on the passenger side. In a head-on crash at even a minor speed, the youngster could be thrown violently into the protrusions.

Another GM product—the 1980 Cadillac Seville—also presents a hazard-strewn instrument panel to the face and body of a small child in a frontal crash.

The 1980 AMC Concord is no better—again, a small child could impact protruding radio knobs, air temperature controls, and a lighter knob even in a low-speed frontal impact.

The 1980 Ford Fairmont—presents a small child, in a frontal crash, with literally a face full of sharp, pointed air

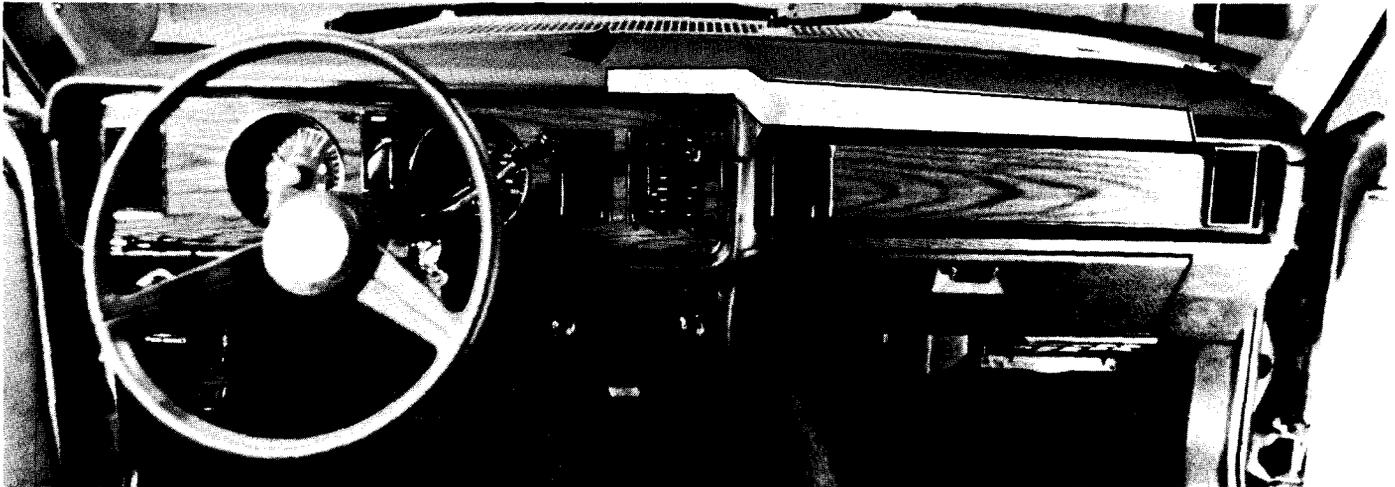


Figure 2. Instrument panel area covered by FMVSS No. 201, 1979 Ford Fairmont.

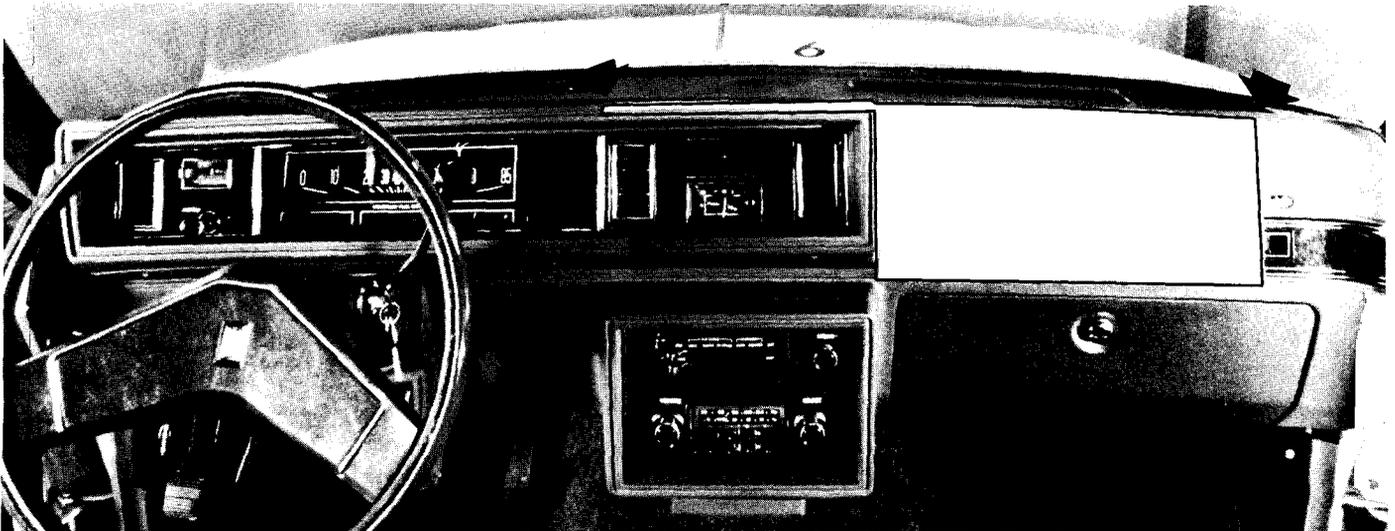


Figure 3. Instrument panel area covered by FMVSS No. 201, 1979 Oldsmobile Cutlass.

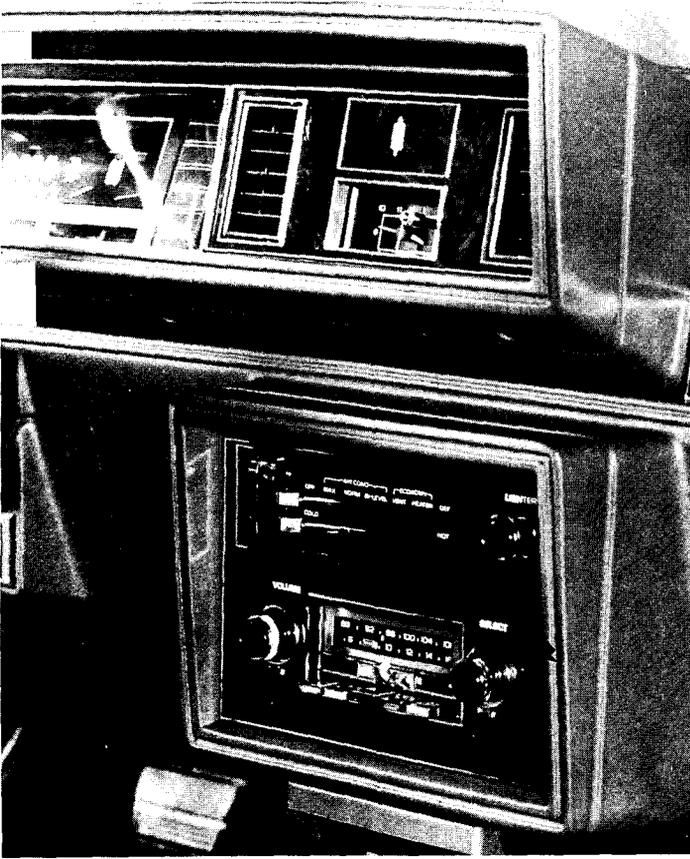


Figure 4. Hard protrusions in instrument panel console, 1979 Oldsmobile Cutlass.

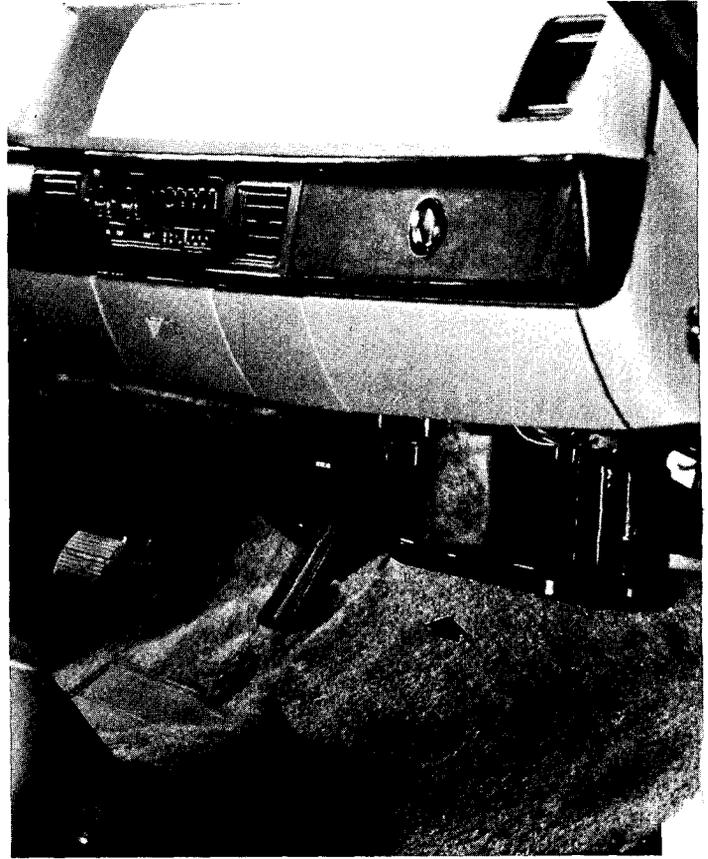


Figure 5. Hard protrusions in instrument panel area, 1979 Plymouth Horizon.

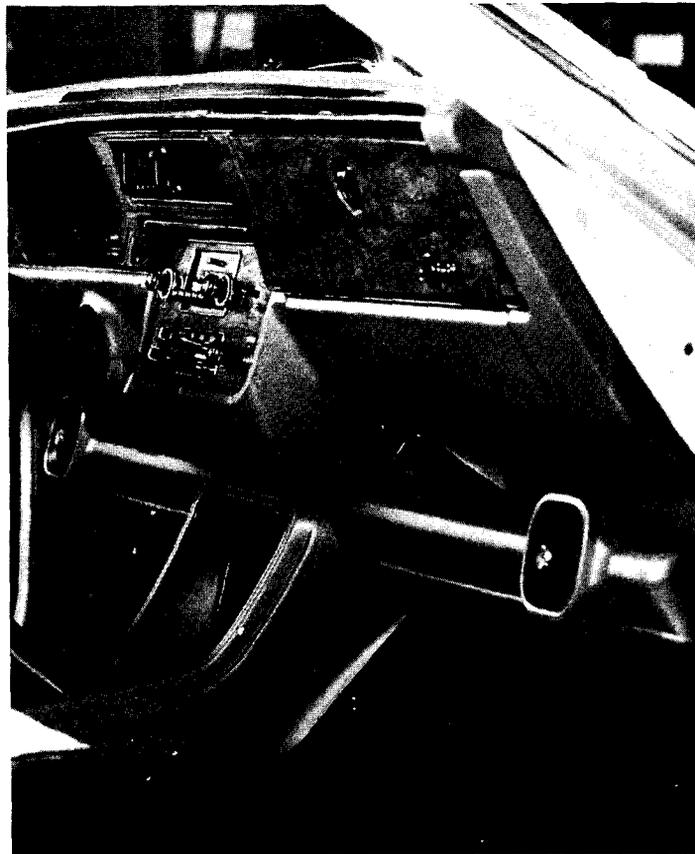


Figure 6. Hard protrusions in passenger knee impact area, 1979 AMC Spirit.

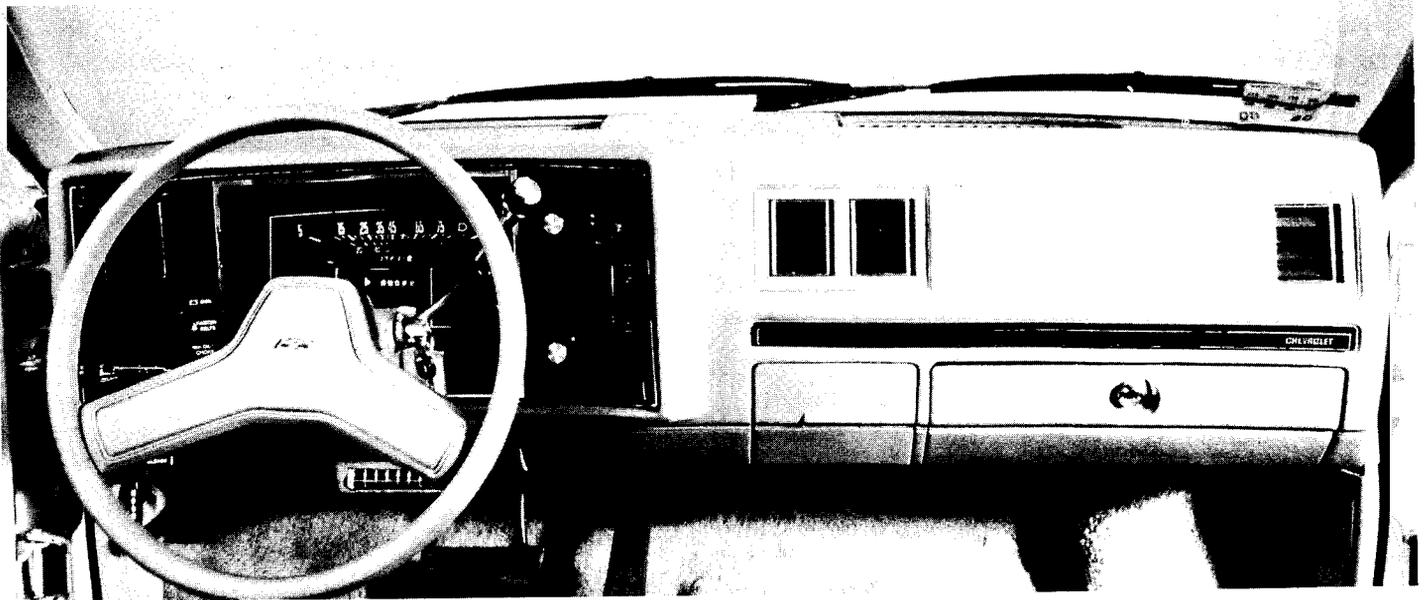


Figure 7. Dashboard panel much less cluttered with knobs and other protrusions, 1980 Chevrolet Citation, an X-body car.



Figure 8. Nest of hazardous structures in an instrument panel designed to meet FMVSS 201 requirements, 1980 Pontiac Phoenix, an X-body car



Figure 9. Hazard-strewn instrument panel, 1980 Seville.



Figure 10. Protruding knobs and controls in instrument panel, 1980 AMC Concord.



Figure 11. Instrument panel with sharp, pointed air temperature controls, 1980 Ford Fairmont.

temperature controls.

FMVSS 201's failings have a particularly tragic potential for infants and children, who need its protection most. Whether restrained or unrestrained, located in the front or the rear seat, their small bodies may, depending on the violence and direction of the crash, end up being thrown into the hostile structures that the standard still permits. Because of their lower height on vehicle seats, infants and children are more likely than adult passengers to have head and face contacts with lower areas of the instrument panel and from seat backs that are not covered by the standard. As we have seen, these areas commonly include design features that increase the likelihood of disfiguring and life-threatening injuries—which may in part explain the finding that child occupants are more likely than adults to sustain head injuries in crashes.

In its recent announcement extending the present inadequate requirements of FMVSS 201 to vans, pickup trucks, and similar multi-purpose vehicles, NHTSA also indicated its intention of toughening the standard.² Until it does, FMVSS 201 will fail to live up to its stated intention of providing "occupant protection in interior impact," whether for adults or children.

As I said at the outset, what happens to children as well as adults at the moment of a crash already has been determined by the prior actions of auto company executives who design and manufacture vehicles, government officials who legislate and regulate vehicle safety performance, and the tens of millions of parents and other adults who buy, use and transport their own and other people's children in automobiles. That today's highway crash packages—including the 1980-model cars now making their appearances in the nation's dealer showrooms—do not incorporate adequate, automatic crash protection which reflects decisions by com-

pany executives and government officials. That the overwhelming majority of children injured in automobile crashes today are unrestrained or improperly restrained by the available active systems reflects a failure of adults—whether from lack of knowledge or other causes—to see that the restraints get used.

Although it is adults whose actions make the difference, it is the children who end up, along with the adults, on stretchers, morgue tables, and the front pages of newspapers.

Earlier this year the IIHS carried out a series of crash tests whose filmed results point up what is typically happening to children in a highway crashes, and underscore just how critically the children are affected in crashes by the prior actions of adults.³ In these moderate speed impacts, unrestrained infant and child dummies literally were hurled about, often to end up impacting the hostile instrument panel structure placed in their paths.

We will see excerpts from the test film in a moment. From younger to older children, they will show:

- An infant held on the lap of its unrestrained mother. In the crash the mother, her weight tremendously amplified by the abrupt change in velocity, acts almost as a battering ram that crushes the child against the dashboard.
- An infant, unrestrained and on the front seat, impacting a nest of edged, protruding instrument panel knobs in a frontal collision.
- An unrestrained 3-year-old propelled, by the force of a 25 miles per hour impact, head first into the windshield.



(a)



(b)



(c)



(d)

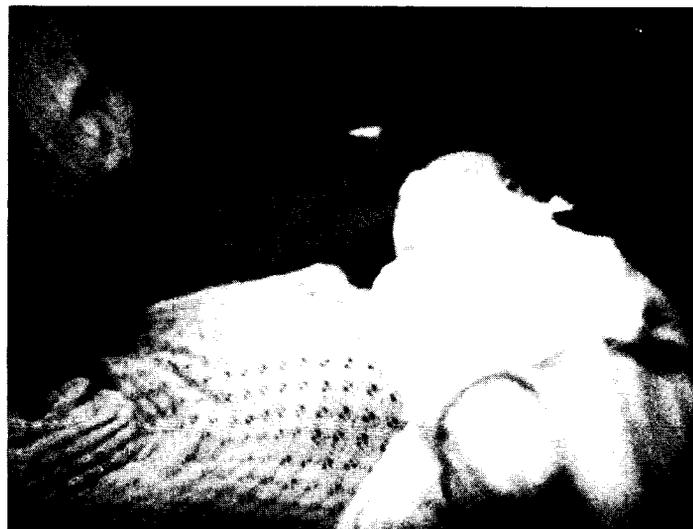
Figure 12. These photos are from slow motion films of an Insurance Institute for Highway Safety crash tests using female and infant test dummies in a 1979 4-door Chevrolet Malibu sedan impacting a solid barrier at 24.0 miles per hour. Figure 12a. Pre-crash position of the unbelted mother sitting in the right front passenger seat holding her baby on her lap. Figure 12b. Forward movement of the mother and baby 1/10 of a second after impact — just before they smash into the instrument panel and windshield. Figure 12c. The mother's body becomes a battering ram — crushing the infant into the instrument panel and shattering the windshield, only 3/20 of a second after impact. Figure 12d. The mother and infant rebound from the windshield and instrument panel, still only half a second after the initial impact.



(a)



(b)



(c)

Figure 13. These photos are from slow motion film of an Insurance Institute for Highway Safety crash test of an infant dummy lying unrestrained on the front seat of a 1979 4-door Chevrolet Malibu sedan impacting a solid barrier at 25 miles per hour. Figure 13a. The pre-crash position of the infant lying unrestrained on the front seat next to its mother. Figure 13b. Shows the forward movement of the baby in a wide angle and a close up shot less than 1/10 of a second after impact — just before the baby's face contacts the instrument panel. Figure 13c. Shows the baby's face smashing into the protruding knobs of the instrument panel only 1/4 of a second after impact.

- Three unrestrained children in the cargo area of a station wagon that is struck in the rear by another car traveling at about 30 miles per hour. Two of the three children are ejected from the station wagon's rear window in the crash, to be smashed first against the impacting car and then against the pavement.

All of this material—news photos and crash test films, injury data and engineering knowledge—points to how all of us can do a much better job of keeping our children from being killed or injured in crashes:

1. Place children in the safest part of the car—the back seat. That's where they are least likely to be thrown against hostile structures or ejected in a collision.
2. Secure children with restraint systems—safety belts at a minimum, specially designed child restraint devices if possible. Tragically, some child safety literature suggests that small children should not wear belts—in effect, that they should be left unrestrained if a special child restraint system is not available. As the best research to date shows, the fact is that children ages one to four are substantially better off in seat belts than without them. No child should be unrestrained in a motor vehicle under any circumstances.
3. Place infants in specially designed, restrained infant carriers.
4. Keep children out of station wagon, van, and pickup truck cargo areas.
5. Work to get cars designed with children in mind—with instrument panels, for instance, that are uncluttered with sharp-edges, hard protrusions, and doors that will resist intrusion and also will stay closed in impacts so that children won't be dumped out.
6. Work to get cars designed with increased levels of automatic (“passive”) protection so that even children unrestrained by active belts will be better shielded in impacts.
7. Take such knowledge with you into the marketplace when you buy new or used cars, and act accordingly.

We have an obligation to ourselves and this country to see that our children grow up as uninjured in mind and body by the environment we have helped create for them as possible—an environment in which motor vehicles and highways play a central part. Crash protection with children, then, is not someone else's job. It is a job for all of us.

Dr. Nichols: Thank you, Dr. Haddon. Your pictorial representation certainly underlined the purpose of the first

National Conference and our continuing efforts to improve child passenger protection.

Our next speaker is Dr. Susan Baker, an Associate Professor of the Johns Hopkins University, School of Public Health. Since 1968, she has been engaged in many aspects of research, teaching, and writing about highway safety. For example, areas of carbon monoxide poisoning, alcohol in relation to highway safety, and motorcycle crashes and more recently she has become concerned with injuries to children. In addition to her research, she has encouraged passage of a child restraint law in Maryland.

This morning, Dr. Baker will speak about deaths and injuries to children as motor vehicle occupants. Welcome, Dr. Baker.

Dr. Baker: Thank you very much, Dr. Nichols. Actually, my special interest in this area of children in cars goes back to the time when I reviewed the data from all of the crashes of cars equipped with air bags and noted how well the children, even out of position, had been protected in crashes in which they might have otherwise been killed or severely injured.

The findings from these air bags crashes were in sharp contrast to what I see in my own office, which is located in the Medical Examiner's Office in Baltimore. That's where we do autopsies and collect data and so on for children and others who have been killed in automobile crashes.

Our previous speakers this morning have brought home to us the seriousness of the problem of injuries and deaths among young motor vehicle occupants, and have given us insight into our responsibilities and opportunities to ameliorate this public health problem—a problem so huge that some 750 American children less than five years old are killed each year as occupants of moving motor vehicles in crashes,⁴ and over 50,000 injured seriously enough to be taken to hospital emergency rooms for treatment.⁵

What I would like to do is to describe recent research findings about children killed in car crashes. I will also discuss some of the available information on nonfatal injuries, although comprehensive data are still scarce except for fatalities.

The most surprising new findings regarding children killed in crashes is that among all pre-teenagers, the death rates are highest for the very youngest children.⁶ This figure (Figure 15A) shows the motor vehicle occupant death rate per 100,000 population, based on death certificate information from the National Center for Health Statistics. The first and highest point on this graph represents children less than six months of age, who have a death rate that is three times the rate for three year olds, (Figure 15B), shows the death rates by month of age, we see that death rates are highest at one and two months of age, then decreases fairly steadily through the first year of life.

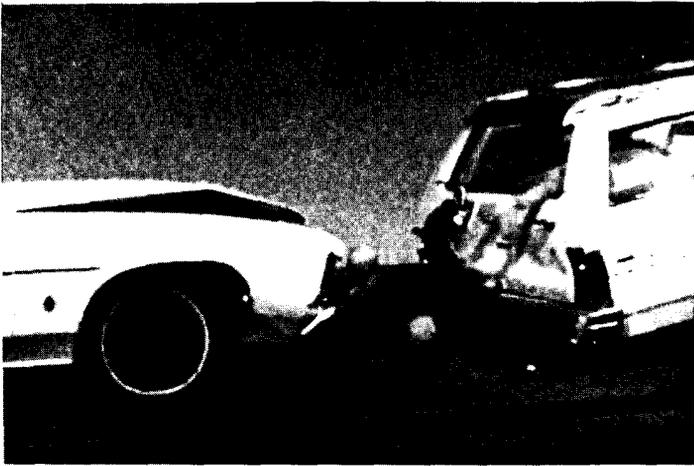
The very high death rate in the youngest children is surprising because the available survey data, as well as data on reported crashes, suggest that during the first year of life, children younger than one year of age travel less than children ages one to five. This figure (Figure 16) presents data from NHTSA's Fatal Accident Reporting System



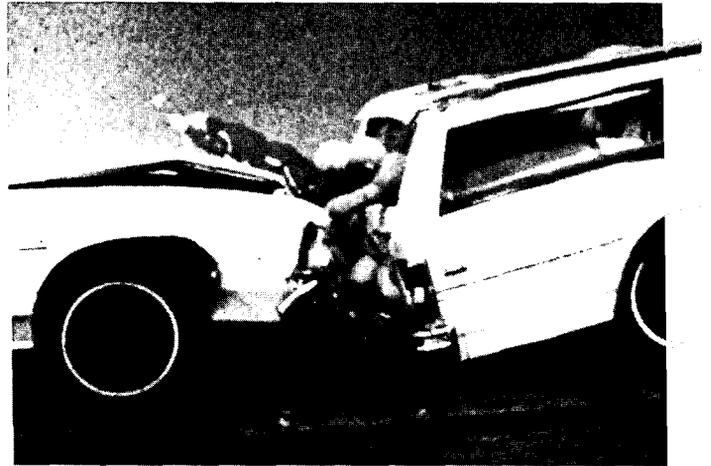
(a)



(b)



(c)



(d)

Figure 14. These photos are from slow motion films of an Insurance Institute for Highway Safety crash test of one 6-year-old and two 3-year-old test dummies in the rear cargo area of a parked 1976 Chevrolet Impala station wagon being hit from the rear by a 1976 Ford LTD Station Wagon travelling at 29.9 miles per hour. Figure 14a. The pre-crash position of the children in the cargo area of the Chevrolet station wagon with its rear cargo window open. Figure 14b. The two cars 0.020 seconds before impact. Figure 14c. The children are catapulted through the rear cargo window — only 0.420 seconds after the impact. Figure 14d. The children's positions 0.865 seconds after impact. One child's head is smashing against the pavement.

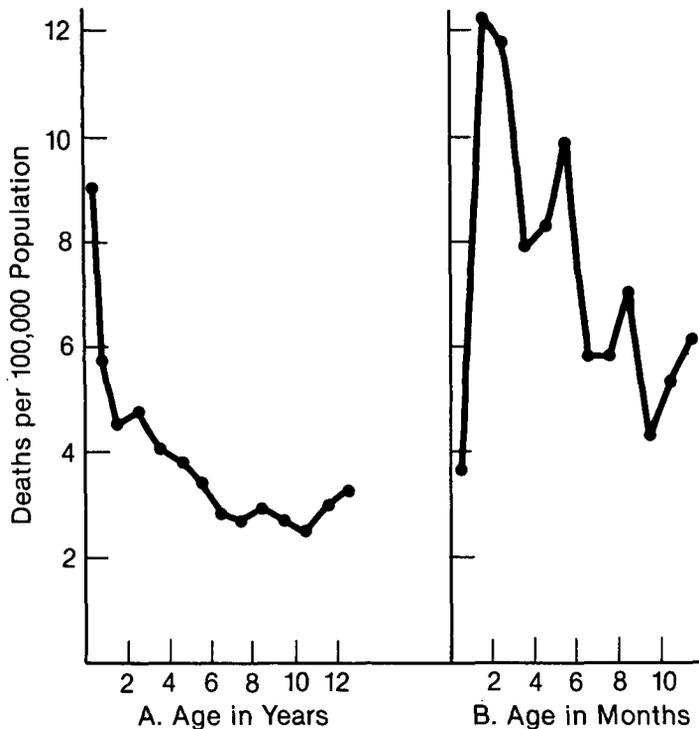


Figure 15. Motor Vehicle Occupant Death Rates, U.S., 1976-77.³

(FARS). The top line shows the total number of children who were occupants of cars involved in fatal crashes during 1975-78, for each year of age through age 12. As you see, the largest group of occupants was the two year olds. The line below this, however, which shows the number of children who were killed in these same crashes, is highest during the first year of life. The bottom line, showing the percent of occupants killed in each age group, was obtained by dividing the number killed by the total number of occupants in fatal crashes. The percent killed is highest for the youngest children, drops sharply until age three, then changes very little through age 12.

Thus, it appears that the high death rate in the very youngest children is not due to greater exposure; that is, these children do not travel more, or have a greater likelihood of being in a serious crash. Nor is their high death rate associated with a particularly high injury rate. Data from the Consumer Product Safety Commission's (CPSC's) Injury Surveillance System, for children who are injured as motor vehicle occupants and treated in hospital emergency departments, indicate that fewer children less than a year old are treated than one year olds, and that two year olds are the most frequently treated in the under-five age group (Table 1). I would like to call your attention to this new source of data on people who are injured in motor vehicles and treated in some 120 emergency rooms that are monitored by the CPSC. This project, a joint venture of the CPSC and NHTSA, can now give us some up-to-date estimates of the numbers and types of vehicle-related injuries being seen in emergency rooms.

Returning to the problem of the very high motor vehicle occupant death rates in young children, what is the effect of

seating position? Could this explain the high death rate in babies? Maryland data for all children who are passengers in cars in reported crashes show that the youngest children are most likely to be in front seating positions.⁷ This figure (Figure 17), based on FARS data, illustrates the phenomenon. Among the children who were occupants of cars involved in fatal crashes, 78 percent of those less than a

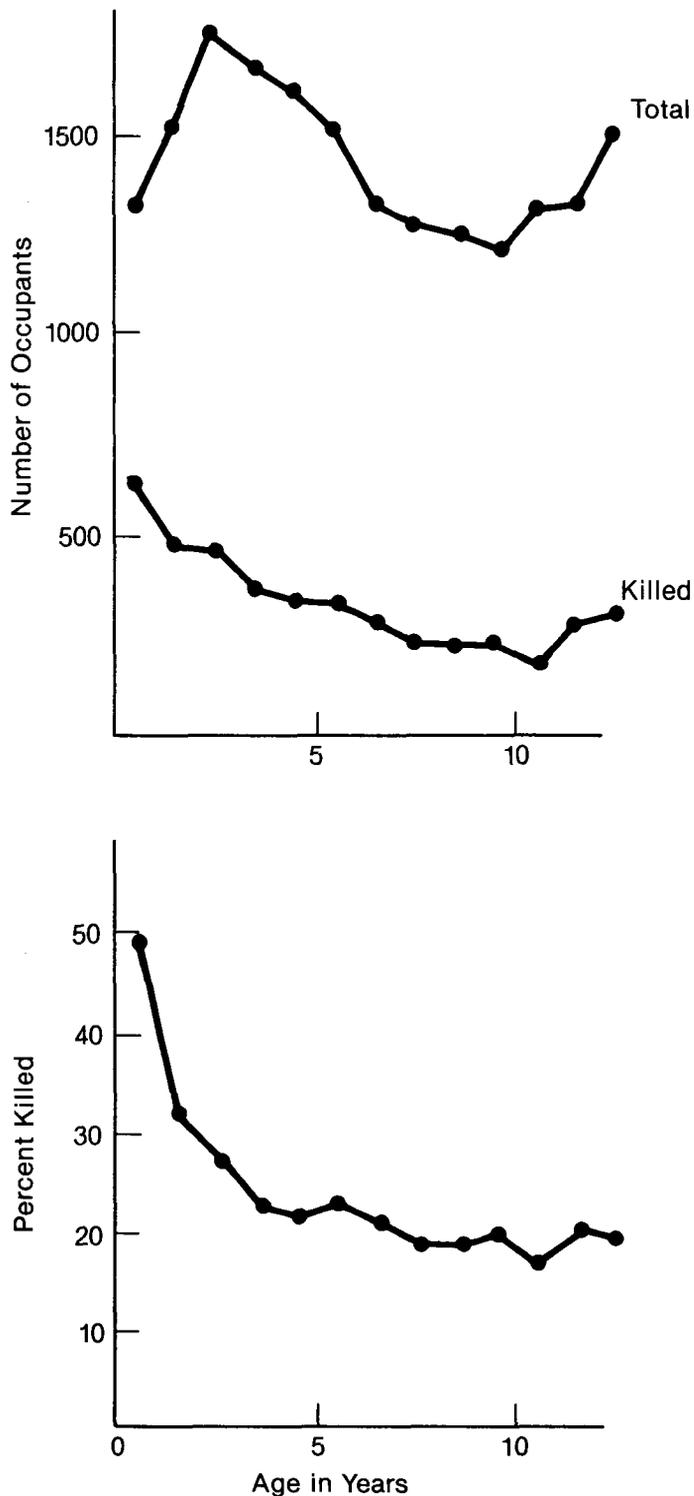


Figure 16. Occupants of Cars in Fatal Crashes 1975-1978 (Source: FARS)

Table 1.
Number of Children Injured in Moving Motor Vehicles
and Seen in Hospital Emergency Departments
(CPSC Estimates for Fiscal 1979²)

Age 0	7,785
1	9,060
2	12,080
3	10,869
4	11,508
Total	51,302

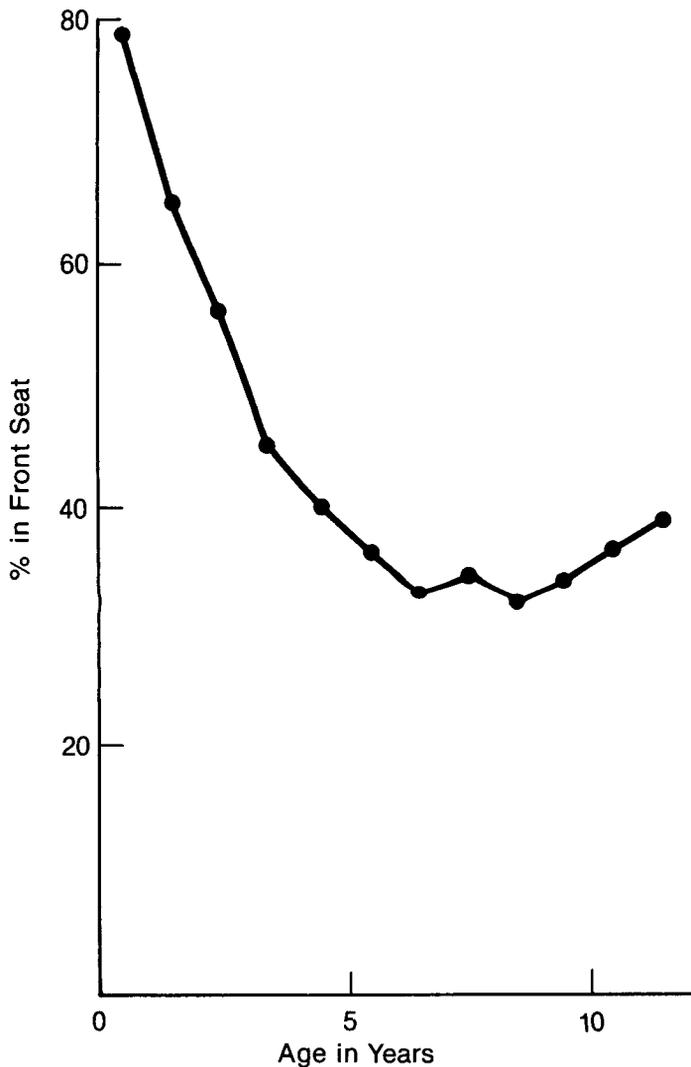


Figure 17. Occupants of Cars in Fatal Crashes
1975-1978 (Source: FARS)

year old were in the front seat, with the proportion dropping to about 35 percent of the children age 5 through 12. Nevertheless, while seating position may contribute to the high death rate in infants, it does not explain it. As you can see in this next figure (Figure 18), there is no difference between

front seat and rear seat in the general *shape* of the curve for percent of occupants killed. For *both* front and rear seat, the percent killed is about twice as high for children less than one year old as it is for three year olds. Therefore, the age differences in seating position cannot explain the age differences in occupant death rates. This same figure, however, clearly illustrates the *additional* protection given by rear seating position. For all ages, the proportion of children killed is roughly one-third less for children in the rear seat compared to those in the front seat. Even so, about 40 percent of the children killed in this country are rear seat occupants. This point deserves emphasis. It means we must be cautious not to suggest that unrestrained children are safe in the rear seat, even though they clearly are safer there than in the front seat.

Data on *non-fatal* injuries also show the protective effect of the rear seating position. Alan Williams and Paul Zador, of the IIHS, analysed injury rates for about 25,000 passengers less than 15 years of age who were involved in crashes in North Carolina.⁸ Among unrestrained children, who comprised over 90 percent of all the children in these crashes, rear seat position reduced the risk of injury by 28 percent. This same figure also shows the protective effect of restraint use, which was even greater than the effect of seating position. The use of restraints reduced injury rates by 39 percent in the front seat and by 31 percent in the back. As you can see, the restrained child sitting in the back seat has the best chance of avoiding injury.

Other speakers today will be discussing restraint systems, but I would like to emphasize the tragic fact that few children use seat belts, despite their enormous value in a crash. There is a widespread misconception that adult seat belts are dangerous for young children, but research by Jerry Snyder of the Highway Safety Research Institute (HSRI) and Brian O'Neill of IIHS,⁹ as well as researchers in Australia,¹⁰ has shown that children are far safer under adult seat belts than unrestrained.¹¹

Detailed information on restraint use and other factors in *fatal* crashes was obtained for children killed in Maryland during the five years 1973-77, in a study where we reviewed data from the medical examiners office and police reports.¹² Sixty-one children less than ten years old were killed. Only two of the 61 children were in acceptable restraint systems designed for automotive use. One of these two was killed in a frontal collision with a tractor trailer. The child, age 18 months, was in a child restraint that was attached to the center front seat. In the crash, she stayed in the child seat and the child seat stayed attached to the car, but the front seat itself broke loose and shifted forward so that the child struck the instrument panel.

The other child in a restraint system, a five-month old male, was loosely harnessed in a child seat that was designed for a larger child. The restraint was properly fastened to the outer front seat with the car's seat belt. At an intersection, the right front corner of the car collided with a truck. The child seat stayed in place, with the harness buckled, but the baby came out of the seat and was ejected through the window. He died four hours later of head injuries. The trooper

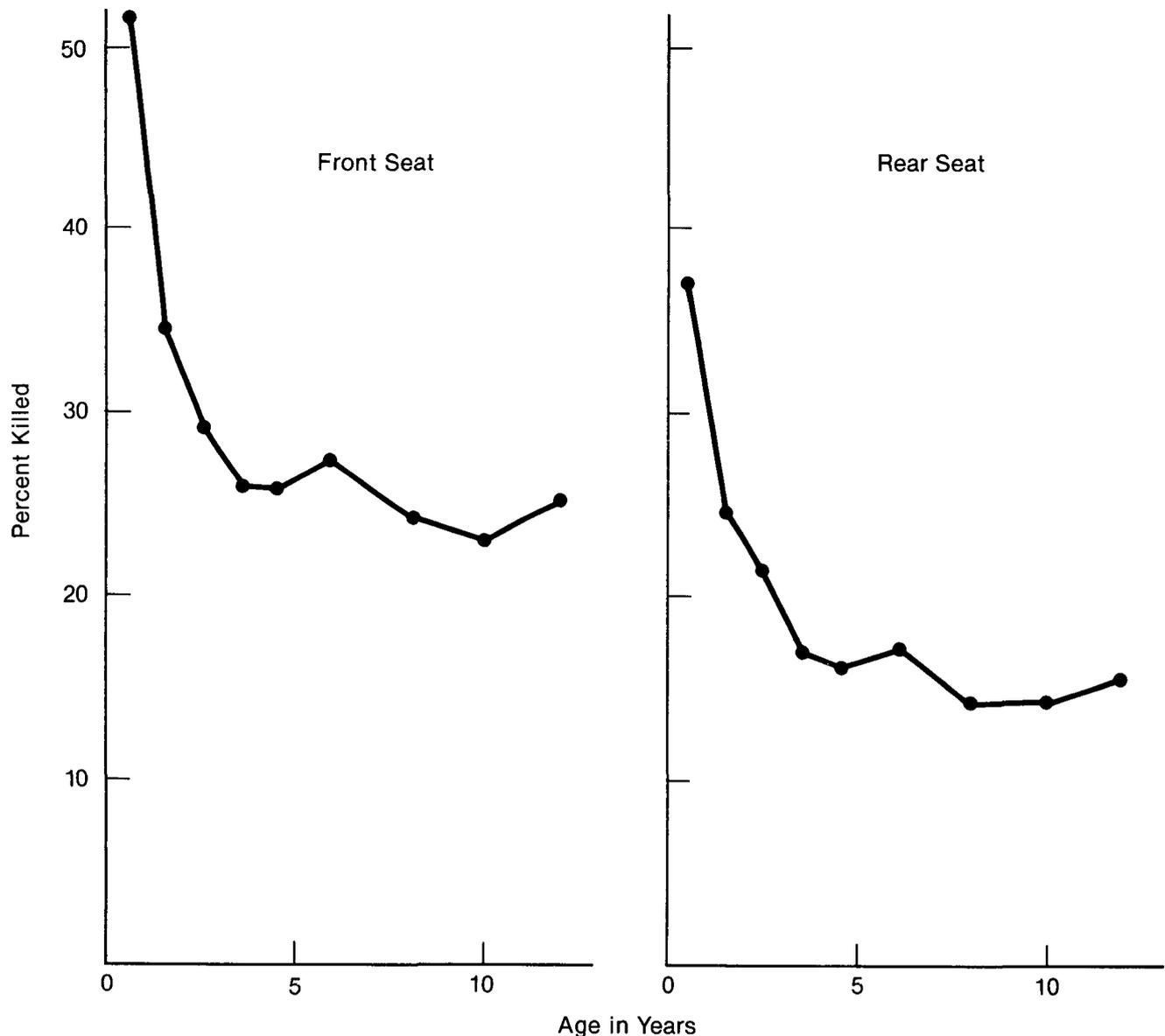


Figure 18. Occupants of Cars in Fatal Crashes 1975-1978 (Source: FARS)

considered this a survivable crash. The father, who was driving, was not seriously injured even though he was unrestrained.

Three young infants were in lightweight plastic "baby holders" that were not designed for use in cars. The one shown here has a warning label on the bottom that says "don't leave your child unattended." I call your attention to the fact that it doesn't say a thing about not using it in a car. Perhaps in the workshops tomorrow, some of you might address the question of how to reduce the use of these non-automotive "baby holders" in cars.

One of our cases involved 4 month old twin sisters, each in one of those plastic "baby holders." The holders were resting on the back seat of the car but were not attached by seat belts. The parents were in the front seat, two other adults were in the back seat with the twins between them. No one was restrained. The car rounded a slight bend. Water was running across the roadway. The car hydroplaned, struck an embankment, and rolled over, throwing the oc-

cupants on top of one another and against the interior of the car. Both of the twins were admitted to the hospital. One of them survived, but the other was unconscious on arrival and died six days later of head injuries.

At least eight of the children killed in Maryland were traveling on laps. I say "at least" eight, because there is no place on the police accident report to indicate that a child is traveling in someone's lap, and in many cases we could not be sure whether a baby was held or lying on the seat. This is a serious problem for researchers trying to study the contribution of on-lap travel, which may well be an important factor in the high death rates of infants, since the child on someone's lap may be crushed by the weight of the person holding the child. Not even a restrained adult can adequately protect a child in his or her lap. One four-year old was sitting in the lap of her father while he drove. They collided head-on with a truck and she was fatally injured when her head hit the steering wheel.

Seven young children, ranging in age from nine days to

24 months, were on the laps of their unrestrained mothers. Six of these seven had severe head injuries, and the seventh had a broken neck. A typical scenario is illustrated by the case of this 23 month old boy who was sitting on the lap of his mother in the right front seat. The car was driven by his father. No seat belts or other restraints were in use. They were driving along a city street one evening when a car coming toward them, operated by a drunk driver, veered into their lane and struck them head on. The child was taken to the nearest hospital, where he was unconscious on arrival. He was placed on a respirator and died three days later of head injuries.

The kinds of injuries sustained by children were also of interest. About 80 percent of the children killed in Maryland had severe head injuries. This figure shows that serious head injuries were most common in the youngest children.¹³

In addition to these data from fatal crashes, indicating that most of the children killed had severe head injuries, emergency room data point to the need to give better protection to the heads and faces of child occupants. The CPSC data for Fiscal Year 1979 show that of the passengers less than five years old who were injured seriously enough to be treated in hospital emergency rooms, 83 percent had injuries to the face or head. Most of these were lacerations. Head or facial injuries also accounted for most of the hospital admissions in this age group, according to CPSC.¹⁴ These findings regarding the importance of head and facial injuries underscore the points made earlier by Dr. Haddon, on the need to modify the structures and surfaces that children are likely to be hurled against in a crash.

In summary, the children killed in crashes are disproportionately less than a year old, and disproportionately front seat occupants. Some 80 percent had severe brain injuries. Only rarely were they restrained. Similarly, children injured in crashes are usually unrestrained, and their injuries generally involve the head or face.

The major implications of these research findings are:

First, children traveling in cars must be better protected in crashes than is generally true today, with special attention given to the importance of preventing serious injury to the head.

Second, in view of the extremely high occupant death rate for very young infants, greater emphasis must be placed on safe packaging for the *youngest* children many of who are now being transported in adult arms or in "baby holders" that are not designed for use in cars.

Third, in view of the immediate availability of automotive seat belts, and in view of the protection they offer, we need to stress the desirability of restraining children with seat belts if appropriate child restraints are not available.

Fourth, the additional protection offered by rear seating positions should be recognized and utilized. At the same time, we must emphasize that even when children are in the back seat, they are *not* adequately protected in crashes unless they are restrained.

Finally, we need to work toward development of child restraint systems that are easier to use correctly than incorrectly. The closer we come to systems that provide passive, automatic protection in a crash, the greater the likelihood

that our children will receive the protection they need and deserve.^{15 16}

Thank you very much.

Ms. Claybrook: Thank you, Susan. Per usual, you have illuminated our heads and given us some new information which is terribly important and a great contribution to this Conference. We thank you very much.

The next speaker is Dr. Seymour Charles, who is a practicing pediatrician from New Jersey. He wears a number of different hats and has been actively involved in the field of child passenger safety for many, many years. He is one of the individuals who testified before the United States' Congress in 1966, urging the enactment of the statute which we now administer and which has benefited the public.

He is an Associate Clinical Professor of Preventive Medicine in New Jersey in the College of Medicine and Dentistry. He is also Chief of Pediatrics at Newark Beth Israel Medical Center. He is in his most activist role, the President and co-founder of the Physicians for Automotive Safety (PAS), in which he has been a leader in child passenger safety for more than 15 years. They were the producers of a very fine film, which we distributed widely in our meetings across the country and which I think many of you have seen as a result.

He was the recipient in 1967 of an award from the New Jersey Academy of Medicine for Outstanding Public Service to the Citizens of New Jersey for all the work that he had done in that field. He is the moderator of a weekly radio talk show on health education. He has the opportunity, as few doctors do, to communicate with the public in his State. So, it is with great pleasure that we have asked Dr. Charles to join us today.

Dr. Charles: These final days of the International Year of the Child also mark the end of a decade; a decade which has seen the issue of child passenger protection emerge from virtual obscurity to an accepted and vital part of the total highway traffic safety picture.

As a practicing pediatrician and President of PAS, I am deeply grateful to Ms. Claybrook for the opportunity to address this Conference.

My own involvement in the control of the highway epidemic began 15 years ago. In 1964, there were no vehicle safety standards and no government department authorized to set such standards.

The concept of the safe car, an approach so successfully promoted by Ralph Nader, was largely misunderstood and often ridiculed. In his love affair with the automobile, the American motorist had lost sight of the fact that the prime purpose of his vehicle was to provide a safe and dependable means of transportation.

This lack of concern on the part of an uninformed public spurred a group of physicians into taking action. Past experience in many other health challenges has shown that the solutions cannot be expected from government alone without professional and citizen involvement.

Thus, PAS was created with the objective of channeling

the expertise and responsibility of the American medical profession toward the control of a major threat to public health. At the same time, we wanted to bring before the public the options open to them for survival on the highways. In a spirit of frustration, an unprecedented course of action was conceived.

On April 7, 1965, 30 practicing physicians armed with placards, staged a dignified protest outside the New York Coliseum where the Annual International Automobile Show was playing to the usual capacity crowd. The aim of this demonstration was to bring before the American public the fact that defective design of automobiles was causing unnecessary injury and death.

A statement issued to the press explained that the hazards of the environment have always posed a threat to society, and where such threats could not be avoided, society must seek controls to minimize these threats before they reach the human body.

Today, we refer to a vehicle designed to alleviate the trauma of motor vehicle crashes as the socially responsible car.

In 1965, PAS was one of the few voices heard on Capitol Hill in favor of safety legislation. PAS representatives repeatedly testified before Senate and House Committees, and it was the joint efforts of a handful of safety advocates that in 1966 culminated in the passage of the Twin Highway Acts which established the DOT and an agency within the Department specifically authorized to formulate vehicle and highway safety standards.

DOT has come a long way towards fulfilling the mission it was assigned by Congress, despite strong opposition to many of the safety measures it has sought to implement.

PAS continued to support the enactment of safety standards but soon directed its major thrust to child transportation safety, both in the family car and in school buses. Here was a void that needed to be filled.

Children's car seats on the market at that time were just that seats designed to elevate the child and provide some degrees of confinement. In the late 1960's two motor vehicle manufacturers developed crashworthy child restraining devices, but their existence was virtually unknown to the public. Even parents anxious to protect their children experienced extreme frustration in their efforts to locate these seats.

They had to be ordered and delivery took weeks and even months. To assist parents, PAS began making information available through physicians' offices as early as 1969. We also presented exhibits at medical conventions. I recall how in order to attract the attention of the physicians at the conventions, GM and Ford would make a car available, which we would position along our booth. When physicians saw the car they would come to the booth, and we then had an opportunity to deliver our message.

We don't have to dangle cars anymore. We had trouble, for example, with even displaying child restraints. They thought we were salesmen working for the manufacturers and that somehow we were more commercial. We sometimes had to rent space in the commercial areas as we weren't allowed into the scientific space of the convention.

Anyhow, we continued to have convention exhibits and we find each year a larger number of physicians stop at our booths to seek information on automotive safety.

The early nucleus of pediatricians actively involved in intensive parent education programs was small. For example, Dr. Arnold Constad, co-founder of PAS, in Summit, New Jersey, and Dr. Robert Scherz in Takoma, Washington—at opposite ends of the nation—were the first to recognize the potential yield of beginning child restraint education in the antenatal and post partum period when new parents are especially receptive.

The results could be immediately evident, as the newborn takes its first ride home in a safe car seat. Then in the usual monthly examinations in the pediatrician's office, there would be booster reminders by the physician which would reinforce the parent's discipline on child restraint usage.

Consumers Union came to the aid of the public with periodic ratings of child restraining devices. Articles began to appear in newspapers and family magazines. Television, most notably, two network programs: NBC's "Today" Show and more recently, ABC's "Good Morning, America," featured child safety. Publicity has greatly accelerated during the past two years as the result of Dr. Robert Sanders' work which culminated in the enactment in Tennessee of the Child Passenger Protection Law, a landmark development that put child safety on the map.

I believe that the convening of this Conference will have a far reaching impact to further turn the tide. I also believe the involvement of the medical profession to be one of the key components of a concerted, multifaceted approach to child passenger protection.

The medical profession has the unassailable responsibility to be concerned with all aspects of health: all variations in the course of common and uncommon diseases and the provision of a safe environment for our patients.

It is, therefore, inevitable that where means are now available for the prevention or attenuation of bodily injuries from motor vehicle crashes, clinicians speak to these issues with their patients. Surely, one of the most essential services of a physician to his patient is health education. What the scalpel is to the surgeon, words are to the clinician!

I believe—and this belief is shared by many of my colleagues—that the role of the pediatrician and family physician is a vital one in motivating parents to protect their children. He or she can and must focus on that need as part of routine health counseling. We now advise on many aspects of child health. For example, nutritional requirements and toilet training, which, in my practice takes up an inordinate amount of time.

We discuss a child's sleeping problems, learning and other emotional and behavioral difficulties. We remind parents to keep medication and toxic substances out of children's reach. We do our best to guide, to encourage, and above all, to teach.

I had an experience last week, which points out what we can do as teachers and counselors. The Academy of Pediatrics had sent out a directive that the pediatricians of America should do everything possible to encourage breastfeeding. The more we understand nutrition and breastfeeding, the more we realize how natural it is. The Academy

has taken a position on this because it's a lot better to have a child breast-fed; better with regard to allergies, immunology, and many wonderful things that happen with breast-feeding.

I had a mother come to my office and she had already decided that she was not going to breast-feed. Occasionally a parent will come in and want to be interviewed and meet the doctor before she has a baby. I said something about breast-feeding and she said, Oh no! or something to that effect.

Anyway, she couldn't have been more negative. I encouraged her and she turned out to be an extremely compassionate and effective mother with the breast-feeding. I had a letter from her husband the other day which said, "Thanks, Dr. Charles." You know, that breast-feeding turned out very well.

She has, as a matter of fact, breast-fed 15 months and we didn't start solid foods until a year of age! I think that shows you the kind of things pediatricians can do.

There is no reason why as physicians we can't establish parallels and do the kinds of teaching which are necessary with regard to child restraints. Another parallel: Immunizations. Physicians have long pointed out the comparative goals between immunizations and child restraint usage.

We would say, for example, that immunizations are to the disease as education is to child restraints to try to get our peers involved; there is just as much responsibility for child restraints as immunizing. The approach makes sense, but there are significant differences.

While immunization is administered in a doctor's office or health care facility in a matter of seconds and assures protection from disease for many years, if not for a lifetime; the responsibility for protecting children from injury in automobile crashes rests fairly and squarely on the shoulder of parents or caretakers. In that responsibility the parent must discharge not only day in, day out, but several times in the course of a shopping expedition. We need to do the best we can to teach our parents; but we cannot be deceived and we don't want ever to believe that we are going to be universally successful.

We are fully aware that much of what we say may fall on deaf ears. Studies have shown that only one-third of patients follow the physician's directions all of the time, one-third do sometimes, and one-third never do and never intended to.

Should this knowledge prevent us from prescribing medication even if there is responsibility that it may not be administered to all or the dosage and frequency will not be according to instructions?

We have to acknowledge that no physician expects 100 percent compliance. There is undoubtedly a ceiling of compliance in child restraint utilization, but that ceiling has by no means been reached.

Writing off child transportation safety as a waste of a physician's time, as has sometimes been suggested, borders in my opinion on professional negligence.

For we can never know until we have tried and tried well. And trying well means providing quality information, for it is not child restraint utilization per se, but correct utilization that has been shown to be the stumbling block.

There is an understandable tendency for parents to purchase devices that have received high safety ratings; and then many proceed to use them in a manner that reduces or even entirely defeats their protective potential. It is important, therefore, to assess the willingness of the parent to conscientiously follow manufacturers' instructions and indeed evaluate the temperament of the child before prescribing the type of device to use.

In other words, it is not just sufficient to evaluate the quality of protection that any seat will afford. It may be just as important for the pediatrician to evaluate the kinds of discipline that the parent will demonstrate in following through the instructions; some parents are more scrupulous, can take the seats that give optional protection but require more in the way of attachments. We tend to overlook the fact that many parents do not associate the safety aspect of child restraints.

This is readily explained. Car seats have been in use for 40 years or so. Their purpose was and for many parents still is, to keep the child confined, supported, and elevated for a better view.

With the issuance today of the long awaited revision of the Federal standard for child restraining devices, Standard 213, I am confident that manufacturers will be encouraged to develop devices that are easy to use and at the same time offer an acceptable level of crash protection.

It should be mentioned here that the juvenile products industry deserves to be highly commended for putting on the market a wide selection of crashworthy devices although Federal regulations had not required them to do so.

There are problems that must be resolved with regard to the vehicle itself to make it compatible with child restraint installation. In some cars, lap belts are now not long enough to reach around restraints. This problem does not lend itself to a ready solution. Continuous loop inertial reel belts that slide freely through the latch also present difficulties. Use of a special locking clip is required which makes correct installation even more difficult and cumbersome.

I should also like to draw attention to the insistencies that now exist and may well contribute to public confusion about the value of restraints, for example, the absence of belts in large school buses and the lack of enforcement of their use in small school vehicles where they are now required to be installed by law.

Furthermore, we now permit practices which are infinitely more hazardous than allowing children to ride unrestrained in cars to go unchecked. More and more children can be observed riding in the bed of pickup trucks. I have even seen children perched on the ledge of the truck bed. It is incomprehensible.

Talk about child abuse. We are now a nation of 50 States with 50 State laws which address the issue of child abuse. This usually takes place in the home and requires investigation. But the negligence of children in cars is public.

Negligence on the highway is there for anyone to see. Child protection is only a part of the whole traffic safety picture. Legislation does not provide the entire answer. Publicity campaigns alone cannot do it. One-shot education programs have not proved successful. The mere handing out of pamphlets does not provide adequate motivation. There

should be a multifaceted approach with the pediatrician, especially being involved as the expert in counseling, leading, and coordinating a community-wide program.

In conclusion, I call on my fellow pediatricians and family physicians, primary physicians in every category, any physician who has any contact or any influence with any parent to take the responsibility in counseling for child restraints.

I call on county health departments to include safe infant transportation in the courses of instruction offered to expectant parents. I call on hospital administrators to provide education pre and post partum and to refuse to discharge infants other than safely protected in appropriate infant car carriers rather than as has been the tradition in mother's arms. You see, mother's arms has always been the traditional way for children to drive in cars. It just doesn't make sense although it has been going on for thousands of years, the public needs to understand that this is the circumstance and that mother's arms are not sufficient crash protection.

Because we need instructors who are well informed about all aspects of passenger protection and understand the problems parents encounter, I urge that medical schools, schools of public health, and schools of nursing include courses dealing with the principles of crash protection in their curricula.

Last, but by no means least, I urge the American Academy of Pediatrics to assume national leadership. It certainly is good news that the Academy of Pediatrics adopted a resolution which would advance child restraint programs for promotion to the highest priority. We look enthusiastically to the implementation of this resolution.

Those of us who have struggled long and hard to focus on child passenger safety are delighted with the developments that have taken place since the enactment of the Tennessee Law. With one government department already committed to child passenger safety and another hopefully becoming involved in the not too distant future, we can look forward to progress with confidence.

There is just about enough time left in the 20th Century to raise a generation of car riders who accept restraints as an essential component of passenger protection.

This would be meaningful influence toward our goal: that our patients live productive lives in optimal health in the safest possible environment. This is really what pediatrics is all about.

Thank you, Ms. Claybrook, for your contributions to this mission.

Dr. Nichols: Thank you very much, Dr. Charles. Next we have a panel on Factors Influencing the Use of Restraints. This panel will be led by Dr. B. J. Campbell. Dr. Campbell is the Director of the Highway Safety Research Center (HSRC) of the University of North Carolina at Chapel Hill. He's been involved in that profession for nearly 20 years.

During the past 18 months, he has directed the HSRC's efforts in the child restraint area and has helped in organizing and conducting the series of nationwide child restraint workshops sponsored by NHTSA and held last year.

Dr. Campbell is here with his panel of experts to discuss factors influencing the use of child restraints. With him will be Dr. Christy Hughes from the NSC, Dr. Edward Christopherson from the University of Kansas Medical Center, and Ms. Deborah Richards from the ACTS.

Dr. Campbell: I do want to make one remark as to the nearly unique character of this meeting. You know, most big safety initiatives that I can think of over the last few years really originate with comparatively few people, usually the sort of professional highway safety people who make a career of this; but this is different. The fact that there is nationwide attention of the large agencies, both private and public, are attributable to a truly grassroots type of activity that has sprung up and come across the entire nation. Many of you who are here have reason to be very proud and pleased that at long last—and I admit it has taken a long time—this most important topic has begun to have the national attention it needs and that there is a true ground swell of activity.

I know I wondered why I didn't realize the importance of this 15 years ago, and I am sorry that I didn't. But I just felt that I wanted to say that and I hope that we can capitalize on it.

Now to help us get back on schedule, I want to introduce all three of my colleagues here and then let them come up her. First, Dr. Christy Hughes of the NSC recently completed her graduate education at the University of Tennessee where she conducted research on child passenger safety. She received her training in individual and human behavior with an emphasis on public policy. Edward Christopherson is an Associate Professor of the University of Kansas Medical Center.

Deborah Richards, from Seattle is co-founder and chairperson of ACTS, a seven-year-old organization, which advocates child safety in cars and school buses.

To get the maximum amount of time to my colleagues, I'll now introduce—Dr. Christy Hughes.

Dr. Hughes: Thank you. This morning, I want to ask your help. I need for you to visualize two things. The first thing I want you to visualize is the family: a mother or a father that you tried to convince to use a child safety seat or a safety belt with their children. Think for a moment and get a specific individual or a specific family in your mind's eye over here. Okay. I want that to be a successful conversation, one of which you feel that you convinced the family or the individual to use the restraint system.

Okay. Hold your success in your mind because now I want you to think about a failure, someone you could not convince. You put everything you had into it. All your arguments into it. It may have been the same with the person or the family you were successful with but you couldn't quite motivate them to use the restraint systems. Keep in mind these are real families because those are the units that we want to put our efforts on. Think about them as we talk about some of the things that we discovered about 1,200 families in Tennessee.

Fortunately, for me as a researcher, the Tennessee program and the NHTSA made it possible for us to investigate

some of our hunches about why there might be differences in the success stories and the failure stories and in our educational efforts to increase child restraint use.

Some of our hunches in Tennessee had to do with the predisposing factors that might exist in terms of attitudes and beliefs about child passenger safety and adult passenger safety and also the values on government regulations. We were a State with a brand new law where people's attitudes and feelings about government might influence their acceptance of the law and their compliance with it.

We looked at families that we observed at two points in using child restraint systems and then with self reported use thrown in there. We categorized them as users or non-users and looked at the differences in their knowledge of the law, their knowledge about child passenger safety and adult passenger safety, and their feelings about government regulation. Also, very importantly, we came up with a way of looking at what they perceived the cost to be of using or not using the child restraints. We defined cost as the economic cost of using, the hassle of using, the comfort and

convenience for the child, and the parents perception of these things of cost—cost to parents and cost to children.

We began to look at the combination of things that were occurring because, I believe very strongly that no single factor is responsible for whether that's a successful story or a failure story, but the combination and our ability to understand and to use our awareness of that combination so that we deal with individual families differently.

Picking up on the remarks that Dr. Charles was making a moment ago, each family is going to be different and we have to be sophisticated enough to be able to understand how to use that so that our influence is in fact effective. As I mentioned, the research with our 1,200 families in Tennessee focused primarily on the first ring or top ring of predisposing factors: the knowledge, the attitudes, values, and behavior that these families were engaging in. We think that the practice of personal effect is obviously a very strong factor.

The circle on your lower left is reinforcing factors; these are both physical and psychosocial factors that the

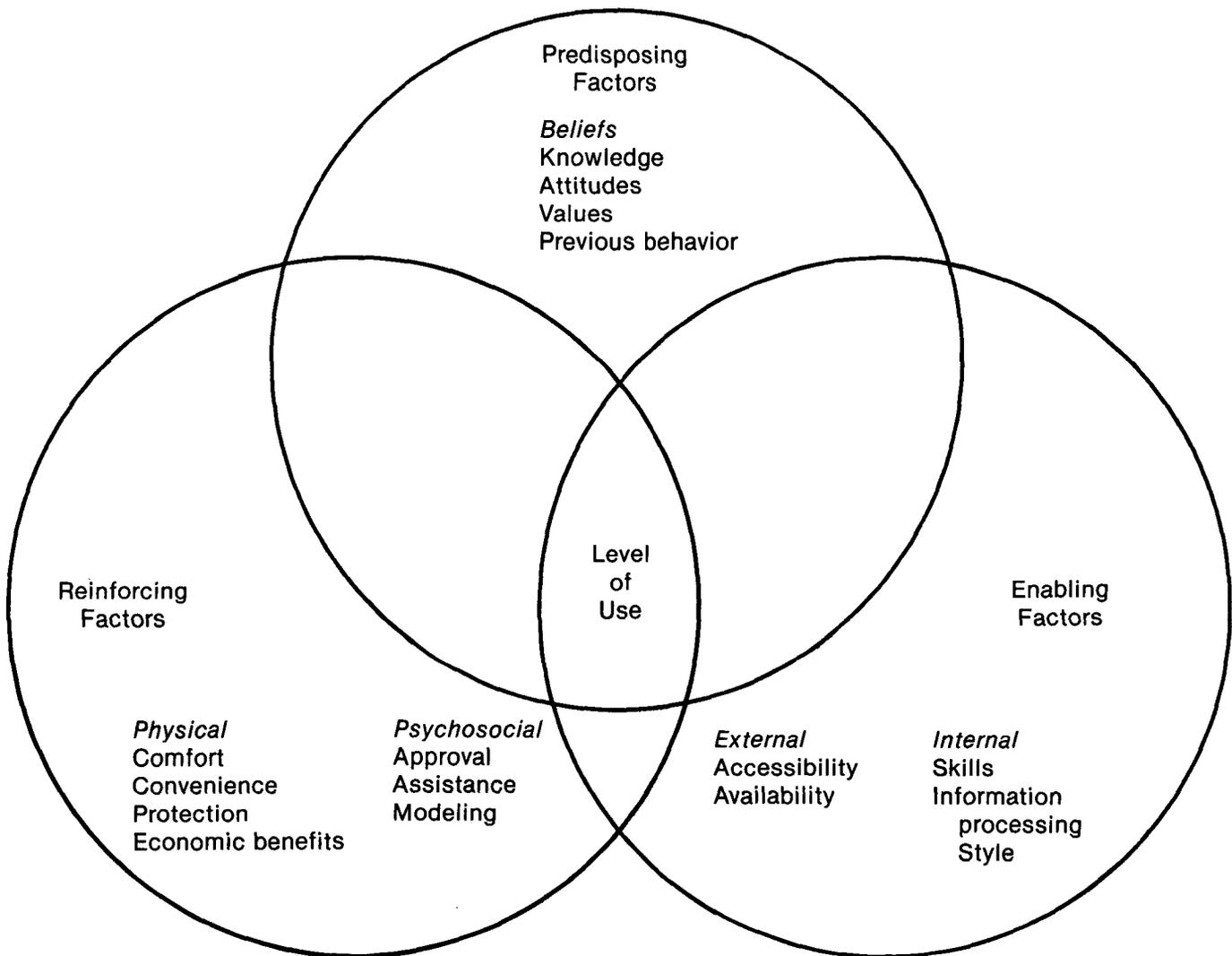


Figure 19.
Child Restraint System Usage Decision Model

families are coming in contact with.

The convenience of the systems, the protection that they estimate they will provide—if they feel safer without the restraint or if they feel safe, in a low-speed crash but not a high-speed crash—and the economic liabilities of having to go out and purchase the \$40 or \$50 child restraint seat.

Enabling factors on the right are those things external to the family. In other words, the acceptability of a restraint: How easy is it to obtain? Do I have to drive 40 miles to a dealership and wait six weeks, or can I find one in a juvenile product store? Also, can I afford it?

The amount of information and skill that we are gaining in other areas of education should be applied to this area of child passenger protection because we are learning so much about the way individuals learn and how they differ from each other. The individual difference and information processing style of a particular parent may have a lot to do with the way they are hearing the message we are trying to give them.

The greatest level of use—which you see in the center—and the greatest degree of correct use is achieved when these circles overlap in such a way that the strongest combination of positive factors influence use.

They can represent the other angle as well. The lowest level of use may also be represented here because the factors come together in such a way that they have very unfavorable attitudes toward government regulations, toward adult restraint use, and there is no support in their environment, either physical support for using the system and finding that it is easy to use or no support from their peers or physicians or from the community at large as a value for using restraints that would promote their behavior.

Furthermore, I feel that in those areas where the two circles overlap that we may find the on and off again user. It really has puzzled me and frustrated me to see someone that we can convince to use and maybe put the child in but not buckle the internal harness after they paid for the seat.

I feel this is one of the greatest areas of danger that we are encountering as we convince people to use seats. Given that this may be one way of organizing what we are seeing, how can we consider what we now know and move toward convincing other families to use restraints. It is my opinion that the people who are currently users of child safety seats or safety belts for their children in this country, tend to be those people who are in some greater State of readiness either by their favorable attitudes or feelings—particularly about feeling the government is generally trying to protect them, or by previous experience with adult safety belts—so that they transfer those good feelings to child safety seats.

The current people using child restraints were fairly easy for us to convince. I think for us to achieve the usage rates that we all want in this country, we have to apply ourselves to creating a physical and social environment by looking at the categories of reinforcing factors and enabling factors that will help us convince that larger percentage of the population that is not in that state of favorable readiness to also use child restraints.

This is quite a challenge and it requires the research from a number of different disciplines in order to figure out how we use, for example, approval. What kinds of approval

from peers, from the examples that we see on TV, from the role models that we see there, and the role models that we see when the county agent comes out as a representative of government and is not wearing safety belts. The range of influences are very great in terms of the size of social aspects of reinforcing factors. We have to look at each of those dimensions and each category of factors and each have a different conclusion to make.

There is no single answer or magic solution for increasing restraint use. It is going to require each of us applying our disciplines and skills to achieve the whole picture.

Thank you very much.

Dr. Campbell: Dr. Christopherson.

Dr. Christopherson: One of the things that I am going to talk about is some of the features that go along with the use of car restraints that we don't think about.

It is difficult for a child to climb on his mother in a fashion like this, if he is fastened in the seat of the car.

A second thing you might want to consider is that many children ride like this. They couldn't ride like this either if correctly fastened in a car seat.

This is the point that I am trying to make. It is very, very difficult to get your head out the window. It is almost impossible; if you are in the back, you can't get to the front, you can't climb on mommy, you can't shift the gears, and you can't change the radio if you are correctly belted in.

In our research, we had observers ride in the back seat of the car for the purpose of observing how the kids behave in the car and whether or not they correctly use the seat belts.

In the first study that I am going to talk about, we used a one-page handout for the parents—those of you that are interested, Ross Laboratories, who manufacturers baby formula has made these available free of charge to anybody that wants them.

In this study, we did not mention safety to the parents. We mentioned the advantages in terms of the way that the child behaves in the car. The point is that children riding unrestrained in cars don't behave very well. One of the things that I recommend that's point ten on the handout that I usually don't point out is when the child starts to get out of the car seat, I recommend that the child gets slapped on the hand. I know that slapping isn't in vogue but it is a lot less dangerous to slap a child on the hand than it is to risk smashing his face against the dashboard. If you are going to hit them on the hand, give them a hell of a good whack.

What this shows—and the next two—

I'm serious about that. That's crazy, I know, but if one or two slaps on the hand will keep a child in his car seat, its worth it. These next two figures are going to show eight different children. The important point is that of the eight children in this study, and their parents, none of them were using child restraint seats at all (even incorrectly) at the start of the study.

What we did is we had one clinic visit with them. We gave them the one-page handout and read it to them, showed them how to put the child in the seat, and sent them on



their way. Immediately after that, 62 percent of the mothers on observation were correctly using the child restraint seats; at 3-month followup, 75 percent were using them; at 6-month followup, 62 percent were using them. At 1-year followup, 37 percent were still using it. Just to make the point again, when you introduce the car seat.

What you see is a corresponding improvement of the way the children behave in the car.

Automobile trips can and should be a pleasant time for you and your child. This is an excellent time for pleasant conversation and for teaching your child acceptable and appropriate behavior in the car. It is also the safest mode of travel, even short trips, for your child.

1. Introduce the car seat to your child in a calm, matter-of-fact manner as a learning experience. Allow him to touch it and check it out.
2. Remind the child about the rules of behavior *nicely* before the first ride and between rides.

Figure 24. Using an Automobile Car Seat Guidelines for Parents

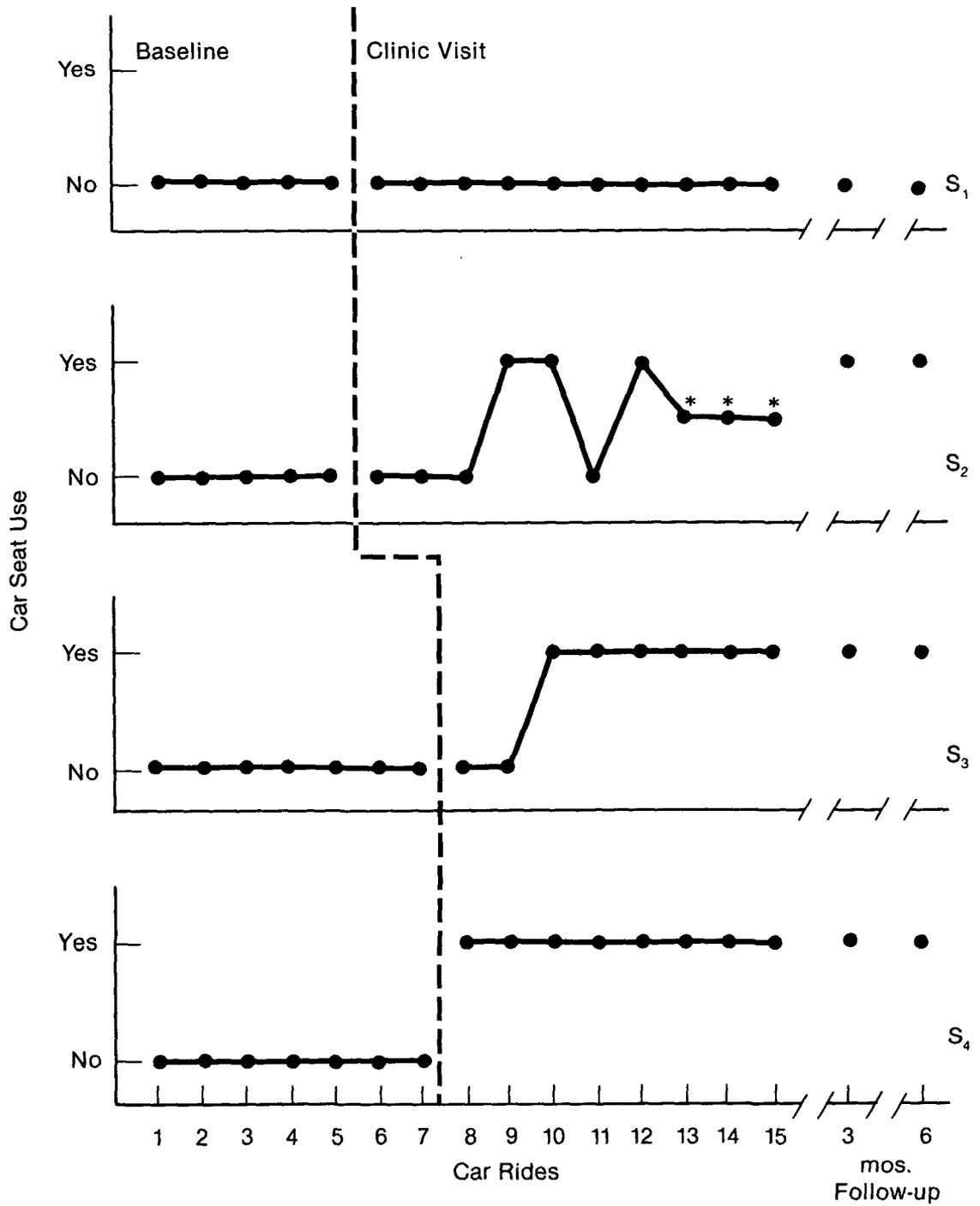
Now, this is the bane of our existence: the first ride home where the American picture is the mother sitting in the front seat with the baby.

In our next study we had two conditions with infants randomly assigned to the two conditions. In one the mothers were discharged the way they have been discharged from the hospital since we have had hospitals and the other is that the nurse came into the mother's room and placed the infant, if the mother would allow them to do so, in a GM Love Seat and then carried the child in the GM love seat out to the car. This is a very crucial distinction between the work that Reisigner and Williams published in *Pediatrics* (September 1978); they gave the mother the seat in the hospital. We actually physically placed the baby into the seat and correctly positioned the seat into the automobile for the first ride home from the hospital.

There is the baby appropriately restrained.

What this shows is the car seat usage at discharge and then at one month followup of the 15 children placed in the car seat at discharge. Ten of the 15 were correctly restrained in a restraint seat—in the GM Love Seat—three of the parents did not want to use one and, of course, we let them out of it; three of them were incorrectly restrained so that the parents were able to do something to circumvent what the nurse was trying to do by placing the child in the car.

We still ended up with 67 percent placed correctly in the restraint seat. In the control group that we did nothing with,



* Child Allowed to Get Out of Seat

Figure 25

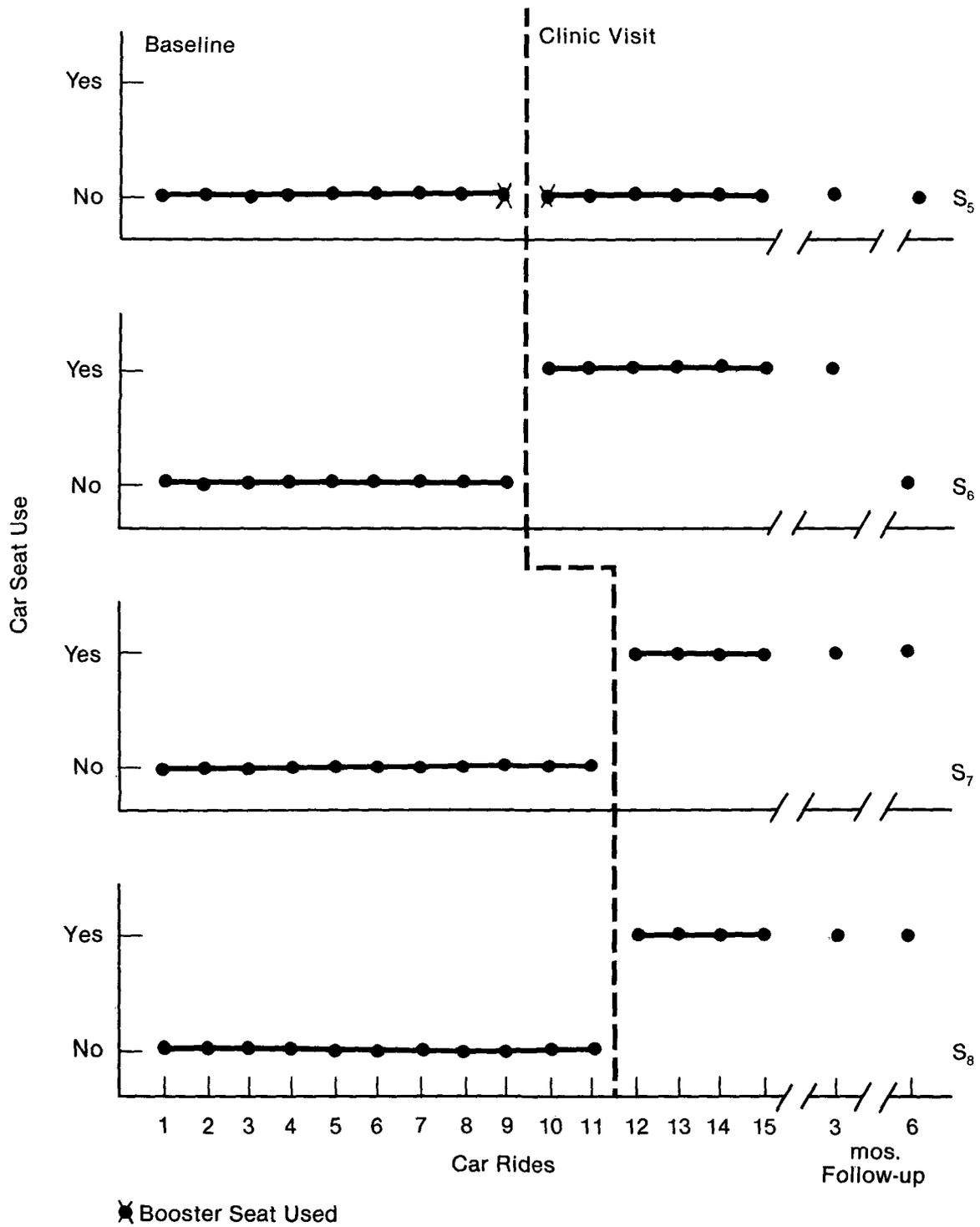


Figure 26

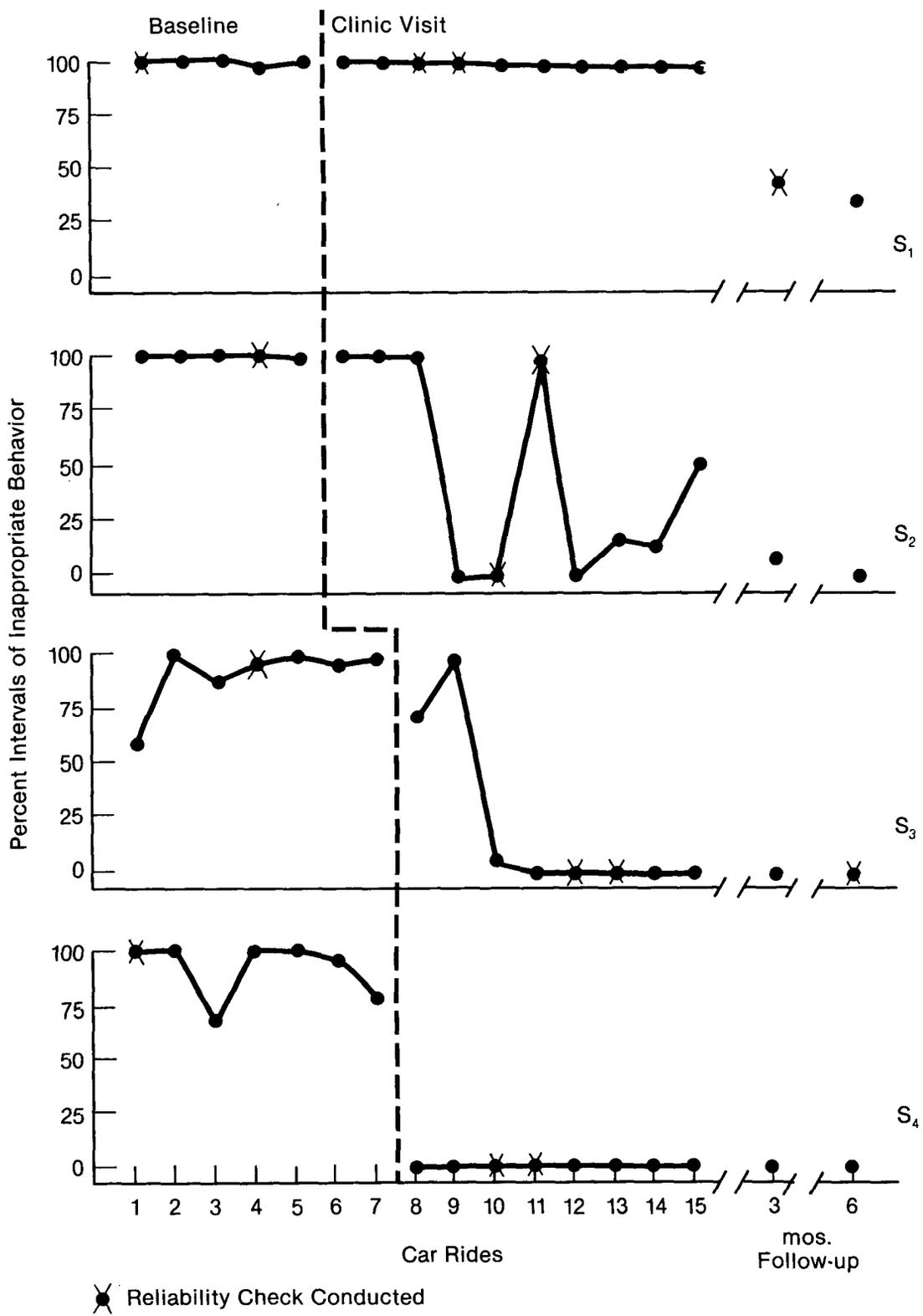


Figure 27

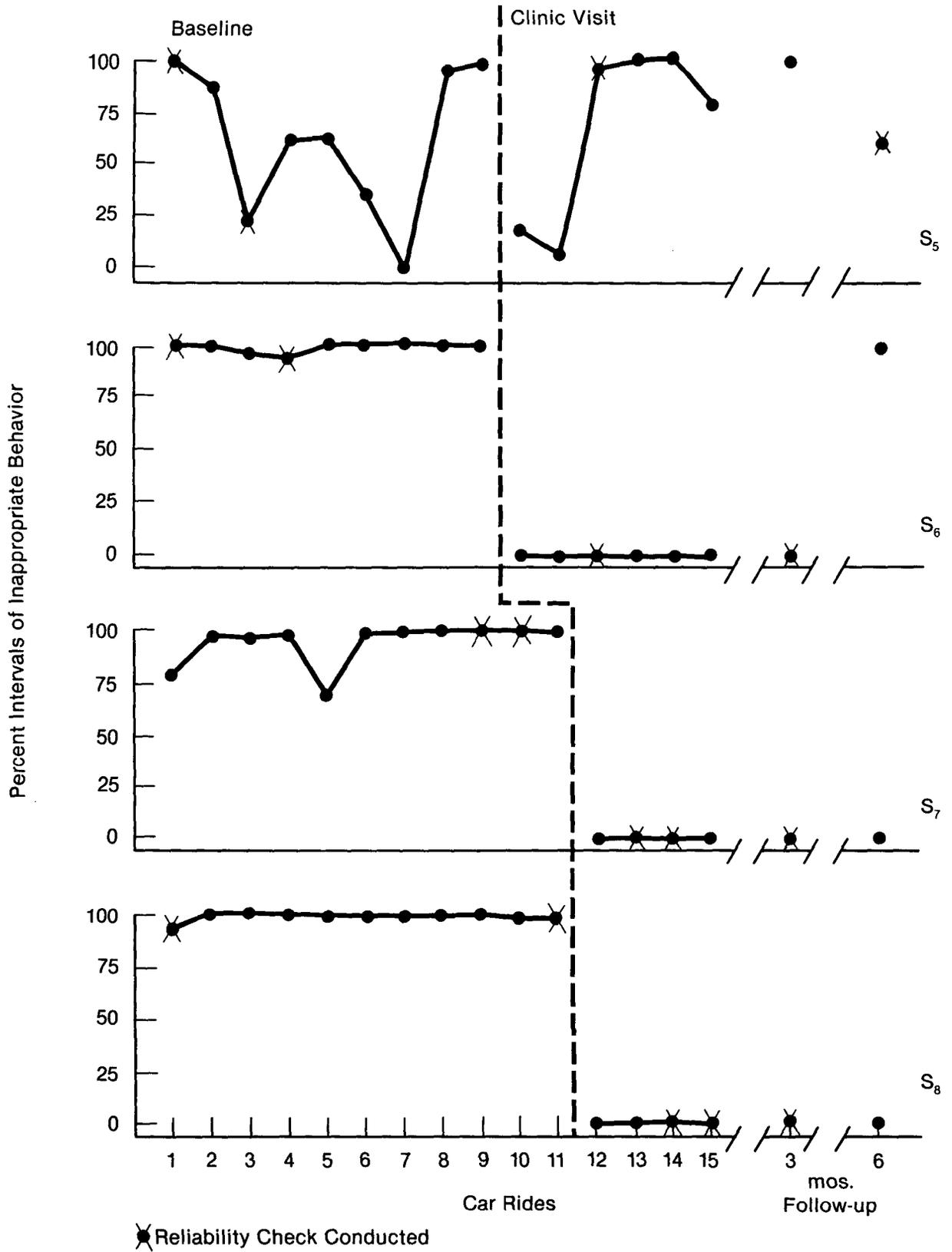
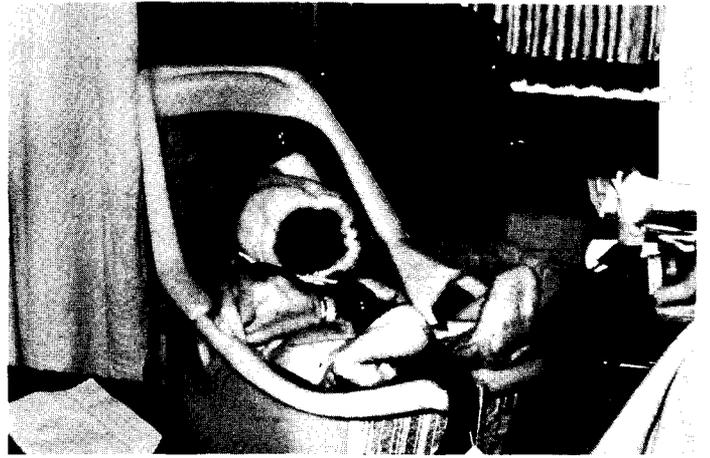


Figure 28



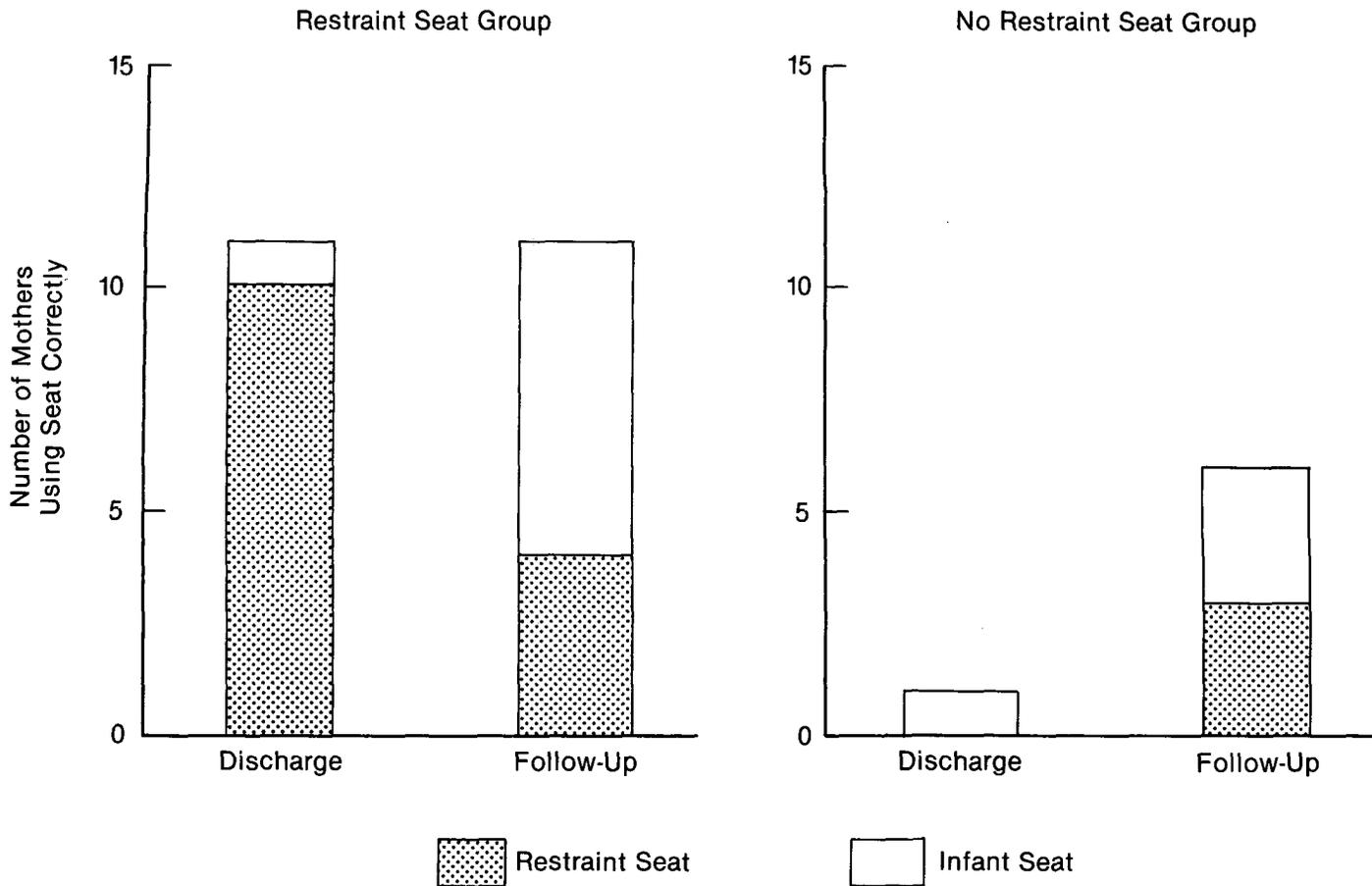


Figure 34

none of them were using an approved restraint seat on discharge from the hospital; one carried the child home in one of those yucky yellow things (a feeding seat).

At 1 month to 6 weeks followup in the restraint seat group, four of those children or 27 percent were still being correctly restrained in the GM Love Seat; 40 percent were being restrained in one of those yucky yellow seats.

In the control group, three were using restraint seats correctly and three were using the yucky yellow seats.

There are two basic points that I want to make. One is that the parents have to be shown how to do it, not told how to do it. I think you are wasting your time telling them how to do it. The other thing is that we had no educational component whatsoever in the study we were doing.

I think if we were going to have an educational component, in addition to showing parents how to put children in the seat, we have to tell them that this thing is dangerous (infant feeding seat) because if you look at previous studies, they haven't really pointed out how many children are being put in these ugly yellow seats and the name is Infant Seat and a lot of parents confuse it with an improved safety device.

Thank you.

Ms. Richards: Hello. I am from ACTS. We have worked for seven years in promoting child restraint use. We were started with the help of PAS.

My remarks are based on the collective experience and observations ACTS members have had when they are running any kind of child passenger safety program.

The complexity of the practical problems which we have talked a little bit about this morning, already shows very clearly that changing behavior is not a simple matter of handing out a pamphlet or running a PSA on television or providing a low cost restraint. I think this Conference today is helping all of us get to the point where we can do a really thorough job of educating people.

The first factor influencing restraint use is the irrational one of the myths. All those myths out there that people believe, or if they don't believe, they are told by their parents, or other people in the community who believe such things: "children won't stay in restraints so why bother," or "lap belts are dangerous," or "I can hold my child to protect them."

There are good answers to all of them and I think the answers that we give may not change the minds of the people who firmly believe those myths; but at least we can keep the myths from spreading any further.

The second group of factors are the very real problems that parents face once they have decided to restrain their children and look at the problems of obtaining safety seats and using them. A great number of devices will not fit in every kind of car. Automobile seats are designed in very different ways and seat belts may be too short. These are problems that a parent can only solve by trying the car seat

in the car before they buy it. A lot of people get a safety seat home from the store before they try to figure out how to use and install it.

The choice is especially difficult for rural parents who may have to order seats through the mail. In that situation, they have no chance to read the instructions before they buy it or to try the safety seat in the car. They're at a real disadvantage.

The second factor is cost which is important not only to low income families. We can say that the cost is insignificant compared to that of a hospital bill or the cost of buying gas for your car—but, especially for new parents who have lots of other costs at the time the baby arrives, it can seem significant.

Uninformed consumers may buy by price, mistaking an inexpensive flimsy baby seat or one of the less crashworthy seats for the real thing. This is a problem that's going to go on for some time, even after the new Federal standard comes into effect, because there will be seats meeting the old Standard 213 and household type seats on the market for a long time.

The use of second hand baby equipment is very common among parents. Even well-to-do parents, I would say. Handed-down seats or garage sale bargains are a problem because often people can't really tell whether the available seat was designed for crash protection in the first place. Also the directions or some of the parts of the seat are often missing. They may have been discarded by the previous owner. Anyone who is helping parents cope with this problem will find the manufacturers are very helpful; but it is a big problem.

Misuse is a major problem—failure to use the harness on the child or to install the seat correctly. This comes about when people buy the seats without really knowing what they are for. Education has got to be very specific about the functions of the harness, the seat belt, and the top tether strap.

The instructions that come with car seats in some cases are very excellent. The manufacturers have taken a lot of trouble over them. In other occasions, they are very confusing or very sketchy and will not solve all the problems that the parents face when they use the seat for the first time.

We firmly believe that for most parents, the simpler the car restraint, the more likely it is to be used and that's something we have constantly told manufacturers and the government. Some people have responded to it better than others.

The nature of the family car is another problem that we find. Old cars that people are still using often don't have any seat belts in the back seat. Then you have to encourage people to buy seat belts and get them installed. That's just another hurdle that people have to go over. The increasingly

popular gas-saving cars that we know have many built-in safety hazards generally have only four seat belts. They have no center rear seat belts. One of the most important things that we ought to do is to influence manufacturers to get a center seat belt put in where there is a bench seat. When you eliminate the safest place in the car, you also leave a gap in that back seat, which is very, very tempting for a parent to put an extra child in there. We see it all the time.

The problem with pickups and campers is also important. People write to us very often and say, "I want to protect my children but all we have is a pickup and two kids. When four of us ride together, there is just no place for the children." In the long run, you would like to say that you hope they buy a different kind of vehicle, but for the short run—and an accident could happen tomorrow—what are we going to tell these people? I don't have the answer to that one.

The human factors which Dr. Hughes and Dr. Christopherson were talking about are extremely important. I would just like to stress the problems that an awful lot of parents face in the 9-month to 2-year-old age group when many children rebel, either for short periods or long periods, against riding in their seats. Some children never do and maybe we can figure out why and try to extend it to the other children; but this is something we have to help parents manage. We need to do more research to find out the ways in which parents can actually influence a child at that age. Over age 2, generally, children are teachable; under that age, I don't know what the answer is. Even parents who are very committed to restraint use have problems in that age group.

I guess the last thing I would like to say is that as children get older and ride in other people's cars, in vans, and school buses, with girl scout and boy scout troops, the community's attitude toward safety becomes very important. If your friends and neighbors or the school board doesn't really think that seat belts are important, you are going to have a very hard time making sure that children who ride safely with their parents will be protected with others. I feel that we have to reach the entire community. You can't limit yourselves to talking to parents.

All grandparents, the leaders of the youth groups, and all sorts of people have to hear about this. Organizations that we might not have thought about, like the Veterans of Foreign Wars have members who are grandparents. They need to know about safety in order to give support to parents who are trying to do their best to use safety seats properly.

Thank you.

Afternoon Session

2:00 p.m.

Dr. Nichols: Welcome back.

In this next session, we would like to give the manufacturers a chance to answer questions that you have submitted about the various devices available. As you can see, we have a panel of distinguished representatives from the manufacturers. Mr. Chuck Hurley from the NSC will moderate this panel.

Chuck is the Executive Director for Federal Affairs of the NSC. He is a member of the Study Committee on the National Academy of Sciences Transportation Research Board. The study was mandated by Congress in 1978 to consider ways for safety belt and child restraint use.

He has been active in getting the National Child Restraint Program underway and most recently has been instrumental in writing a comprehensive restraint program for his own three children.

Mr. Hurley, Rep. of National Safety Council: Thank you very much. I am obviously pleased to be here and moderate the panel. I am particularly pleased that all the manufacturers as well as the motor vehicle companies are here to answer all the questions you may have for them. I have also contacted officials from Chrysler and American Motors so that if you have questions for them, they would be happy to respond in writing since they weren't able to be here.

My only point before beginning the questions is that we need each other. We need the manufacturers to provide the quality crashworthy child restraint devices and obviously, they need us. Not only to inform consumers like ourselves, but to inform all other consumers as to the importance of child passenger safety.

For those questions that are not asked—and we have a whole bunch—the manufacturers will also be at the reception tonight and you will have plenty of opportunity to ask them at that time.

For those people who have identified themselves and given their addresses, we will try to get the questions answered in writing as well. The first question, why did you stop making the infant harness? Is there a place for the use of harnesses?

Mr. Koziatek, Questor: The infant harness was discontinued because it was not selling, simply put.

Voice: Is there a place for it in your estimation?

Mr. Koziatek: Yes, very definitely.

Mr. Hurley: Second question for GM, is there or will there be an easier way to install the Love Seat tether other than taking out the back seat and drilling a hole?

Mr. Walker, General Motors: We started phasing into pre-drilling the metal backing on our filler panel behind the back seat. All of the 1980 vehicles have predrilled holes so all that is required is to take a nail or some sharp instrument and poke up through there and you can solve it very easily.

Mr. Hurley: One of the questions for Bob is, what efforts are manufacturers making to provide seat belt capability with child restraints?

Mr. Walker: We have a system that's available with our Chevette system that provides a special lap belt and attachment points that will accommodate child restraint systems in the front seat.

Mr. Hurley: Another one relating to the use of harnesses. What about the harness type restraint? Are there others that would like to respond to what they are doing and for the need of harnesses in the restraint business?

Mr. McDonald: Is this separately from the seat?

Mr. Hurley: The role that it plays in protection?

Mr. McDonald: It will depend on whether the harness is designed as part of the restraint system. Bobby-Mac does require the harness. In the Bobby-Mac, it is designed to take the first load of the restraint system.

Mr. Hurley: We have a question for the representative from Strolee. Why is the lap attachment for the toddler seat not placed higher to obviate the need for a top tether strap?

Mr. Hyde: Our toddler seat does not require the use of a top tether strap.

Mr. Hurley: Here's a question as it relates to liability. Do you know of any instances where the manufacturer or distributor of the restraint device has been sued, harassed,

or has been held liable or conceded liability in any court settlement for design and manufacture of the car seat?

(No response)

Mr. Hurley: Good. Is there any mechanism established to get feedback from consumers and especially physicians on the problems in use of infant restraints? Is there a formal mechanism for the doctors in your devices; if not, should there be?

Mr. Gerken, Cosco Peterson: I think it would be interesting to have it.

Mr. Hyde: I would like to make the medical professional aware of the unit Juvenile Products Manufacturing Association (JPMA), which is the industry mechanism to communicate on these matters.

Mr. Hurley: Here's another one for GM. How do I receive GM love seats, from a retail store? Do I have to purchase them at the GM dealers?

Mr. Walker: They are available not only through the car dealers but from juvenile stores, catalog showrooms and really anyplace that desires to participate in buying and making them available for retail.

Mr. Hurley: Okay. Here's a general question relating to the lack of clarity, in some of the manufacturers instruction for the installation and use of child restraints. Would any of the manufacturers discuss their efforts on the instructions?

Mr. Rucker, Century: We continually try to update our instructions in an effort to take care of the problems that are brought to our attention. It is pretty difficult to anticipate every question, but we in fact do try to address them as they come up. By and large, I think in our case, the instructions are fairly well self-explanatory and you do not run into too much of a problem.

Mr. Walker: We have a 14-page instruction book and it becomes very difficult to include all the possible combinations with all the types of vehicles on the road today. In our 14-page booklet, we try to address ourselves to the majority of the vehicles on the road and the different types of installations used.

Mr. Hyde: In developing our instruction sheets—whether it be for the car seat or any product—we give the prototype instruction sheet to a representative group of people: men, women, teenagers, and let them assess them and then when the general public has difficulties, we either respond in writing or by telephone to help them work out these problems.

Mr. Hurley: How did you react to the warning labels placed on the plastic baby holders which would indicate that they are not safe for automobile restraint devices?

Mr. Gerken: I think that warning should be on there.

Voice: Do you do it?

Mr. Gerken: I believe we do.

Mr. Koziatek: I believe a number of us (manufacturers) do manufacture the baby carrier; and I would like to take this chance to clarify a point which Dr. Christopherson raised earlier. Infant Seat is a registered trademark in the Questor Corporation and baby carriers in general are manufactured by a number of manufacturers. I think it would be helpful for people to recognize that baby carriers generically cover that ugly yellow thing that Dr. Christopherson referred to and they are not designed nor intended for use in an automobile. A number of us do, in addition mention to never leave the baby unattended, that it is also not meant for transporting a baby in an automobile.

Mr. Hurley: How can get your dealers to promote these seats which you manufacture?

Mr. Kelly, Ford: We have been in this business of selling child restraints since 1958 and we find that the way to get dealers to stock them is for customers to come in and more or less demand that they do so. It comes down to this ugly word at the bottom of the line, profit. If there is not enough volume in a product to justify carrying the stock, he obviously will not. He has a limited space and many things that we offer and ask him to stock and sell, one of which is the Tot Guard and the infant carrier.

Case in point, when we were getting started in the business, back in 1967 when the Tot Guard was introduced, we had an article in *Women's Day Magazine* in 1970, which rated the Tot Guard very highly creating a sudden upsurge in sales. I am sure it wasn't because dealers had them in stock; it was because customers went in and asked for them and the dealers got them in stock. Subsequent we were rated number one by *Consumer Reports* in 1972 and our sales tripled that year. Again, it was customers and not the manufacturers going out and asking the dealer for the seats.

The dealers stocks based on demand. I would encourage all the groups to let Ford Motor Company dealers know that you would like to buy the Tot Guard and encourage them to get a supply in stock. When he finds out he can sell it, he will buy more.

Mr. Hurley: A more general question as it relates to the supply side of child restraint devices. How many are produced annually? Is there now an organization that collects such data?

Mr. McDonald, Bobby-Mac: It is the JPMA which is headquartered in Orange, New Jersey. They do collect that information every year. In terms of numbers, you are talking restraints sold each year in the area of a million and a half.

Mr. Hurley: Okay. Here's one for a representative from Strolee. Have you heard comments regarding the Strolee

seat in the infant carrier position that the sides may not be high enough?

Mr. Hyde: As with any design, there is the inevitable compromise that must be made at the time you make the original design in a product that's useful for children all the way from newborn to approximately three and a half, four years. You do have compromises to make. Yes, I have had people comment on that but on the other hand, when they get older you need the shoulder/arm room and there are these compromises to be made.

We suggest a receiving blanket rolled up on each side of the child when they are very small. It helps to fill up the width and contain the child more adequately.

Mr. Hurley: Have there been any considerations regarding use of child restraints in public transportation: buses, planes, trains? Would anyone like to answer?

Mr. Hyde: The only thing you can refer to was a rather humorous phone call by a private pilot who attempted to use one of our seats in a commercial airliner. He had entered into a vigorous war with that regulatory agency and one of the principle airlines when he was told that he could not use it in the airplane and he was very angry.

Mr. Walker: I believe there has been some recent action in the Federal Aviation Administration (FAA), where they have made studies regarding child aircraft safety and one decision was the final FMVSS 213 when should be reviewed before further consideration will be made.

Mr. Hurley: That might be a further area for pursuit by us. I know I have a personal experience when I brought my family to Tennessee a year and a half ago. The availability of child restraints by rental car agencies is a very tough problem and we had a number of difficulties dealing with that; and I finally bought another child restraint to use in my rental car.

Voice: Have any of the manufacturers approached the rental car agencies as to the availability of child restraint devices?

Mr. Walker: Yes. We have made many contacts; due to economics and lack of control, they have basically rejected the idea. There have been a few minimal actions. A few of them have taken on a trial basis, but they haven't expanded. I think National had a test program.

Voice: I sent letters asking and the only response was Avis.

Mr. Swig, International: We have made presentations to the rental companies. The only action taken by them was on an individual franchise dealer basis who bought them locally. They have not adopted this policy.

Voice: Is there a liability problem involved in the rental agencies being reluctant?

Mr. Hurley: That could be. One of the things perhaps that the National Child Passenger Safety Association could be dealing with is trying to remove the barriers to availability.

Mr. Koziatek: I have a comment relative to the airlines. Probably, the greatest concern they have is in the event of an accident, the ability for the passengers to get out of the seats. Relative to public transportation, I think all of the child restraint systems that are manufactured require the use of a lap belt. It is difficult to find any public transportation where a lap belt is available.

Mr. Hurley: That's a good point. A good question of a design nature for the Peterson and Questor people regarding the buckle that adjusts harness length. Does your child restraint have a design that requires the end of the harness to be looped back an additional time to be secured? Obviously, parents may be unaware of this step and are you considering any changes in that design?

Mr. Koziatek: We have a new car seat that I believe completely covers that particular situation. In the car seat, it is necessary to loop the strap back and, I think, the instructions are quite clear and identify that very accurately.

Mr. Swig: On our new Astroseat Six, it shows very clearly that you do loop it back. If we include many more things in the instruction sheet, we are going to have to include an instruction to read the instructions.

Mr. Hurley: Is there presently a market for car beds; and if so, are there any plans to produce crashworthy ones; if not, why not?

Mr. McDonald: I think maybe that question should be addressed to Henrich Von Wimmersperg who has a car bed and showed it last night at the exhibits.

Mr. Von Wimmersperg: It is produced in Germany. It is funded by the American Automobile Association (AAA) and is the only safe infant carrier approved by the Germany Comparable Agency. It is sold in Germany and Switzerland but not in the United States. It passes the United States' standards.

Mr. Swig: There used to be several of the manufacturers who manufactured car beds. With the advent of Docket No. 215 and the subsequent FMVSS 213 of April 1971 not covering car beds, we concentrated our energies on where the sales were which was in the seat restraint systems. Also you have the GM Love Seat, the bucket style, which seemed to fill the need that a car bed did.

Now that we have the new FMVSS 213, we can address ourselves to it because we are no longer shooting at a moving target. We know what was required.

Mr. Hurley: Recently, information has been released suggesting belt systems in some automobiles do not perform as expected. What can the conscientious parent do?

Mr. Gerken: I think that all automobiles are covered by the Automobile Restraint Standard 209, not 213.

Mr. Hurley: Unfortunately, there was a study released in Washington a week ago which indicated in a misleading way that safety belt systems that failure is not the exception but the rule.

The NSC certainly takes strong issue with that. The failure is between 1 and 3 percent. There is no question that safety belts are effective; passive restraints, child restraints, air bags and obviously, through the continuing usage of safety belt.

Mr. Hurley: Will you compare promotional campaigns for home smoke detectors with campaigns for infant child car restraints, the comparison being new technology and a problem of the public recognizing the need?

Mr. McDonald: I will just make one comment on that. There is quite a different piece of economics involved in promoting smoke detectors versus child restraints. I think you will find there is more money that can be put to the promotion of smoke detectors. With child restraints, we are going at a very limited, restricted market and therefore, there is less money to spend.

Mr. Hurley: The NCPA will hopefully help to resolve that.

Mr. McDonald: There are approximately 3.2 million new births a year. Presently, the industry reports sales of about a million and a half. That's only those members of JPMA that report, so we don't have complete figures which suggests to me that there is more than a million and a half. So, out of 3.2 million, I think we are doing a pretty good job in getting child restraint systems at least bought. We hope that they are used properly.

Mr. McDonald: I want to thank everybody here, as I am chairman of the Passenger Committee, for the wonderful job you have done in promoting the active use and proper use of the child restraint system because there is no safety provided to a buyer until they use it and use it properly. That's the message to get across: buy it and use it properly. Keep on doing that; we'll solve this problem.

Mr. Hurley: Here is a question relating to child restraints that have been involved in crashes. What about the need for strap replacement and what local provisions have been made for availability of straps and, perhaps, beyond that, what about the need for attention for those child restraints which have been in crashes?

Mr. Koziatek: I think there is probably a little concern that anybody would have relative to local replacement. We do have some rather stringent specifications regarding the webbing. We would be reluctant to have a consumer whose product had been involved in an accident doing something to the car seat itself without contacting the manufacturer.

Mr. Gerken: We crash test these units only once and I see no reason to put it to a real life situation the second time. We gladly replace the units or the straps themselves.

Mr. Hyde: I guess we all have pretty much the same philosophy it seems. We feel that once the unit has done its thing and protected the child, there are the unknowns of how severe the crash was and what condition the unit was in. We always recommend that the unit be replaced; however, we do not have complete control over the parents and we have to leave it to them. But we recommend the unit not be used a second time.

Voice: Would that be a free replacement?

Mr. Rucker: We agree totally. The unit should not be reused. In the cases that we have known about where one of our products has been in a crash, we have replaced the unit with no charge.

Mr. Hyde: With regard to free replacement, yes, we support that. Yes, we have done it. The only reservation I have is that if that is too widespread, there are people who are not quite as honest as you might want—I leave the conclusion to you.

Mr. Hurley: A question from Nadine Proctor. Is the (infant) seat from Ford, GM, and Chrysler made by the same manufacturer?

Mr. Kelly: Yes, it is.

Mr. Hurley: Again, to the car manufacturers: Could more effective promotional material in advertising be supplied to dealers to increase the awareness availability of infant restraint systems?

Mr. Walker: We started off with a program this year where we gave away 50 seats to the dealers in an effort to encourage them to promote through the dealerships.

A lot of them participated and it looks like we are coming into other programs similar in the next year.

Mr. Hurley: I have some more questions and probably we will pursue them—but since the manufacturers are here, are there any answers you would like to provide, questions that have not been asked at this point?

Mr. Koziatek: Just one comment—In 1974 we undertook, as an individual manufacturer, a national campaign on children's car seat safety. Unfortunately, we probably were five years too soon. We traveled throughout the country, appeared on radio and television shows. Ernie Cooney from Wisconsin can recall that particular program.

It is encouraging at this point in time to see the number of people who show the interest and perhaps have the opportunity to get some of the work and effort of the manufacturers to the consumer.

Mr. Walker: I have one point regarding the use of the locking clip. The locking clip definitely needed with the lap belt/shoulder harness system that have a free-sliding latch plate. In the case of GM, we do have this part available. If the dealers haven't got it, they can write to us and obtain it. We don't include it with every seat that we sell because the majority of the vehicles on the highway do not require it.

Mr. Hurley: I guess we are running out of time. I know the manufacturers will be with us tonight at the reception and probably for the rest of the Conference. It will be a great opportunity to ask some of the questions. I certainly would like to thank them for answering the questions that have been presented.

Dr. Nichols: Our next presenter will speak to us about the Tennessee Law. He is the man who is instrumental in carrying out that law, Mr. Michael Ellis, the Highway Safety Coordinator for the State of Tennessee serving under his third Governorship.

Mr. Ellis: Thank you, Jim. The topic of this presentation is "Tennessee Child Passenger Safety Act, Two Years Later" so we won't go into any of the "where it came from and how it came about."

You must remember that from the inception of the CPSA, our General Assembly looked at this legislation as the one best mass education methods to get all the people in a hurry. We used that concept in spite of the obvious flaws that the legislation has.

We felt we could take the flaws and work around them. After passage, we moved into a joint program with the NHTSA and subcontracted with the University of Tennessee because we felt that everything we did should be documented because people would want to use it later on.

First thing we did, of course, was to gather our baseline data. We found that less than ten percent (around nine percent) of the people used child passenger safety devices in their automobiles. The next two years we conducted a massive public information effort and then measured its effectiveness.

We maintain quality in our control groups to see how different things affected and did not affect use. We found a few things that we needed to patch up as we went along; for example, the Human Services Department of the State of Tennessee is the legal guardian of an awful lot of children, wards of the State, so we provided safety devices to those people.

We did public service announcements for television, letters, speeches, billboards, the whole standard thing. It worked out fairly well.

Over two years, we increased the usage rate to 17 percent on the statewide basis. Another thing we found out was that better than 90 percent of the people on the telephone survey knew what we were talking about. This is phenomenal that so many people know about a program.

Now, we have moved into a new phase, an enforcement phase. Quite frankly, we never expected to be able to do what we are now doing. It took a couple of things to happen: a Governor who has an interest in it. He has four

small children. As a matter of fact, if you picked up a brochure downstairs last night, it has an actual photograph inside the front cover of the Governor and Mrs. Alexander bringing their new son home from the hospital in a child restraint. The Governor appointed as Commissioner of Safety, Gene Roberts, who had a tremendous traffic safety background, understood what the problem was all about, and was insistent upon going into an enforcement program. It was almost a case of where he convinced us that enforcement could really be implemented.

Going into this program, we knew there would be problems. We could "what if?" this program to death. As an example what if highway patrolman gets into an argument with a young lady over whether he ought to be chasing bank robbers or protecting small children. We decided the thing to do was to go out, try enforcing the law as best we could, and see what we could come up with. As it works now the highway patrol has purchased restraint devices, so when they issue somebody a citation, they also lend the restraint device to them until they get to court.

When they come to court—if they show they have purchased a child restraint in the meantime—the State of Tennessee has no objections to the violation being dismissed. Now, of course, it is strictly a judicial decision, but it is fairly well understood that if they have made an honest attempt to comply with the law, that the charges will more than likely be dismissed. That's not dissimilar to what happens in any vehicle equipment enforcement program.

A similar enforcement operates in Chattanooga. So, how many tickets can be written in two months? The highway patrol wrote over 300 statewide. We run 500 miles from our eastern border to our western border. That's a lot of children to be spotted and the parent given a citation.

We do not know what effect enforcement has had on usage rates. We know from our November statistics, where the public information contained the threat of the enforcement program, that we are now up to right at 30 percent usage rate.

Right now, with the law enforcement effort, usage is three times better than anything we had before.

One of the things that we did do in our enforcement program is we designed a brochure (one for local and one for the highway patrol). With actual policeman on front cover.

The one for the local police to distribute is a child with a Chattanooga policeman who has been saved by the belt. These brochures answer some of the tough questions. We have enough of them for the officers to distribute whenever they want.

It is kind of difficult to tell you all the things that we've done. We have done an awful lot of things that we think are good.

We think we have got solutions to a lot of problems and anybody that needs any future help, we would be glad to give the benefit of our experience. If you have got any questions, I would be glad to answer them.

Voice: You have what they call a crusher amendment. Is there anything looking down the road in having it changed?

Mr. Ellis: He wanted to know what Tennessee planned on doing about the child crusher amendment. It has done us serious harm. There is an awful lot of concern over it, but we were able to take the law and do what we thought we could do with it. It used to be called the "babies in arms" clause. We decided that was a positive term, so we changed it.

That's where the baby can ride in the arms of an older passenger. In the statistics this year—we have not seen a decrease in fatal accidents. We have seen tremendous increases in child restraint usage, and we have many success stories of children who escaped uninjured. We have not had a single child fatally injured while riding in a child restraint. Ten days ago we did have, unfortunately, a fatal accident. The 4-year-old unrestrained child was killed; the restrained 21-month-old got a scratch on his head from a broken windshield.

So in one crash you have the two extremes and child restraint devices as a saving factor.

Back to the question on removing the Child Crusher Amendment we're just not that sure that the amount of effort it would take to do it at this time is worth it when we are so limited in our resources in what we can do. We are still considering.

Voice: Why hasn't there yet been noted a decrease in deaths? Is it you haven't compiled the data?

Mr. Ellis: It has to do with the frequency being so low. You are dealing in figures of 20 and less, so out of about a thousand fatal collisions, you are dealing with small figures.

Voice: At what level of usage do you think you will be able to indicate a decrease?

Mr. Ellis: I will have to defer that to the evaluators at the University of Tennessee. Which the success stories and the children we find out are being saved, we feel like we are doing something. I might add that there are several exemptions within the law. The child crusher has not played as big a role as we thought.

The biggest problem has been who owns the car. If you are in grandma's car, uncle's car, okay neighbor's car, it is not included in the law or the statistics. Another thing is most of them are two-car collisions, where as often as not, the at-fault driver is not the one that has the child in the car. It is a protection program, just the way seat belts are. I described a while ago an accident where one child was killed and one was saved. They were hit by a drunk driver.

We talk a lot about increases. Don't ever forget the number of children that are injured in automobile accidents in noncollisions, sudden stops, and things of that nature.

Those people who are involved just in children safety need to keep reminding the people involved in automotive safety that there are a lot of injured children who don't show up in the automobile statistics. We would like to see something done for older children.

Voice: Any plans to increase the scope to include all minor children and are all child fatalities investigated, autopsies, etc.?

Mr. Ellis: They are investigated. We have a supplementary report that we try to get the police to fill out on child passengers. Sometimes, we don't get it, but we do go back to try and get it retroactively. We generally get a death certificate. There are several programs; one is the fatal accident reporting system, which also happens to work out of my office in Tennessee. So, eventually, we get all the information that can be obtained on a fatal accident including data on the vehicle.

Voice: I think the Federal funding for the research aspect is going to run out or finish this year. Will you be able to get more funds so that you can continue to report to us your experience?

Mr. Ellis: Well, obviously, the highway safety program will uphold its part. I don't see any problem in keeping these things going. You know, the highway safety program is a seed money concept. I would hate to see that concept changed.

NHTSA has been generous with us and if we come back and ask them to be more generous and they generally are. We are moving into the phase of our program where we want the Line Agency's support for these type things; just as the highway patrol lived up to their responsibility. We want to see the Public Health Agency assuming their responsibility. We can't rely on highway safety money forever.

Voice: I just wanted to say that New York is trying to join you. We managed to get the bill through one house last year and we are trying to get it through both Houses this year.

My question is, is there a limit in the legislation as by age or by weight?

Mr. Ellis: That's just something that you have to adjust to in your own general assembly or legislative branch, whatever it is called.

We started in Tennessee with a model law four pages long. We defined everything in it and you see what we ended up with. Our limit is generally on age. It was accepted that age was easier to estimate than the size of the children. In training the police officers, we explain if they are big enough to sit in the seat belts, obviously, that's the intent of the law in the first place.

Voice: Would you or other folks in Tennessee testify at legislative hearings?

Mr. Ellis: We have been invited to a couple of places and we have gone. Oklahoma is the first place we went and ever told about all of the things that we did. It was a labor of love; but I will guarantee you, it was a labor! Thank you.

Dr. Nichols: In order to get a reduction, you take the effectiveness of the device (it is probably point five) and then multiply it times the usage rate (which back before the last survey was only point two) and then you multiply that by the number of deaths. It would come out to about four fatalities or less. Now that they have usage rates up around 30 percent, we should be able to show the impact on injuries

because injuries are approximately ten times greater frequency; but I don't think it is any setback at all that they have not been able to document any reduction in deaths at this time.

Dr. Nichols: Our next speaker is going to talk about an insurance company's unique approach to the child restraint problem. I would like to reinforce that by saying that this company's approach is surely one of the most unique and surely one of the most commendable since I became involved in this area.

The speaker is Robert Vanderbeek. He has been president of League Insurance Companies for nearly 20 years. This past May he testified before Congressman Eckhardt's Subcommittee on Oversight and Investigations about his company's occupant restraint program. In the field of child restraints, Mr. Vanderbeek came up with the unique idea of giving away car seats. So far, more than 4,000 seats have been distributed. He is here today to tell us about this very unique program.

Mr. Vanderbeek, president, League Insurance Company: Thank you. First of all, how many people in the audience are working for an insurance company?

Mr. Vanderbeek: I think that will bear out a point I will be making in my talk. As indicated, I was asked to be on this program primarily to comment on the program that we launched last June, when League General Insurance Company, our auto company, began providing child car safety seats free to our insured families. The title of my talk was given me by NHTSA people. Apparently, this is a unique program; but I hope that before the next time I speak, we can take the "unique" out of the title.

Unless you are from Michigan, you probably don't know much about the organizations that I work with. League Life Insurance Company was formed about 20 years ago. It is affiliated with the Michigan Credit Union League and it is now the largest life insurance company in Michigan, providing about seven and a half billion dollars of life insurance protection for roughly two and a half million people in Michigan. That's about one quarter of the population.

About ten years ago, we started the auto insurance company called League General Insurance Company. We now insure about a 100,000 vehicles of which 80,000 are in Michigan and 20,000 are in the States of Minnesota and Oregon where the Credit Union Leagues sponsor our program.

We have been active in a number of ways to promote seat belt usage. We have supplied stuffers to credit unions. We have put signs on the buses and posters in credit unions. This was quite a broad scale media campaign—following up one done by the auto manufacturing industry to encourage the use of seat belts.

We felt that this program was cost effective from a standpoint of our insurance companies. In other words, the decrease in claims would more than pay the cost of the seat belt program.

The new child safety seat program is really a followup to what we have been doing before. Our program is simple.

We have added an endorsement to our auto insurance policy which states that we will provide a child restraint car seat to any policyholder who has a baby while insured with us. We also have given seats to those policyholders who already had small children if the children were born while their parents were insured with our company.

The policy endorsement was approved by the Insurance Commissioner of the State of Michigan almost a year ago, and last week it was approved by the Minnesota Insurance Commissioner. The Oregon Commissioner at this point has not given approval.

The program was announced to our Michigan policyholders in June, and each was provided with a simple card to advise us of a birth which had occurred or which is anticipated. When we receive the card, the information is recorded and sent to Century Products, the manufacturer of the Trav-L-Guard child restraint car seat which we have selected to distribute. Century mails the seat to our policyholders. We urge policyholders to give the seat to another family when their own children have outgrown it.

The Trav-L-Guard seat is recommended for use for children weighing between 7 and 43 pounds, roughly, from birth to age 4. Now, there are a number of good car seats, as all of us know from the exhibit last night. The Trav-L-Guard seat seemed to be the best for our use because it does go from birth to age 4. It is very easy to install and we felt that would help us. The seat also got very high ratings from testing that was done of several seats. I suppose I should add that we have no connection with Century—so it is just a business relationship. The seat retails for about \$40.

The reaction to our program—with the exception of other insurance companies—has been somewhat overwhelming. It was immediately evident that our approach hit a need very close to the hearts of many people. TV, radio, magazines, and newspapers in Michigan and nationwide reported on the program. You may have seen the December issue of the *Reader's Digest*. Under the general heading, of encouraging news, the *Digest* gave "Three Cheers for League General." In addition many people have written personal letters to me.

We originally estimated that we would give out 3,000 car seats to take care of eligible families in the first wave of catching up with children already born and then, perhaps, eleven hundred seats per year from this point on. We have already distributed 4,400 car seats, and we have made only one mailing. This may indicate that Credit Union families have more children than the average family.

It certainly proves that a very high percentage of the eligible families requested car seats. There is no question that perhaps 90 percent and perhaps higher requested the car seat. Again, it was free. All you had to do was put a birthdate, your name and address, and that was it. We recognize that giving car seats away is not enough. Our accident statistics have revealed that a number of families who have car seats are not using them. This has not surprised us, and we are developing a program which we hope will lessen this problem.

We are very interested in collecting data from this program to determine whether we can support our belief that it will be effective in increasing the use of this valuable safety

device among our insured population. We have discussed this possibility with personnel of the NHTSA, and they have said they are interested in an evaluation program.

Now, I think this is what is important. We believe an insurance company's self interest is in line with the public interest in the area of infant restraints. We believe giving infant restraints is cost effective because there will be a substantial reduction in claims. The evidence so far suggests that the reduced claims to auto insurers, life insurers—and particularly health insurers—could far exceed the cost of a program such as ours.

We looked into the results of our own experience for five months after the car seats were introduced and distributed. While the data are not yet statistically credible, the figures confirm what we have learned from other studies—that small children in proper car seats are far less likely to be injured or killed in traffic accidents.

One of the questions we have asked on any claim since this program started is *did you have a child under four in the car at the time of the accident?* If the answer is, yes, then a number of additional questions are asked.

During the first five months of our program, there were 119 accidents in which a child under four was a passenger.

In 27 accidents, the child was in a car seat. That in itself is an interesting fact because that's almost 25 percent. Only two of the 27 were hurt, and these injuries were minor compared with the ten injuries among the 92 children not in car seats. I should add that, unfortunately, 13 children who had been issued a car seat were not in the car seat at the time of the accident. This is a problem.

We feel that probably about half of the people who we have given car seats to are properly using them; but, again, it is too early to make a firm statement on the percent.

Four accidents further illustrate the value of seats. In two of these accidents, cars which we insure were struck from the rear. On one, which sustained \$1,800 in damages, a 1-year old was in a Trav-L-Guard car seat riding in the rear seat of the car. She was unhurt. In the other accident, our insured's car received \$1,400 in damages. A 4-year-old in the rear seat was not using a seat belt and was not in a car seat. He died of a fractured skull and massive brain damages.

The other two accidents involve infants and the myth about how safe it is to hold your baby in your lap, as was commented on by the gentleman from Tennessee. In one, a young mother—who happens to be one of our employees—had her 4 month old daughter in a Trav-L-Guard. Her van received \$1,750 in damages, but her little girl wasn't hurt. In the other accident, a 2 week old infant was being held by her 15 year old sister. The baby was killed instantly.

One of the things we hoped would come out of our program was to get the insurance industry involved. We have encouraged such participation, but so far without success. I wrote to a number of companies and I will summarize the general response from the companies. It was "Gee, that's an interesting idea. We think the educational program that we have carried out for a number of years is much more effective. We don't have statistics that would justify our doing this. We will be interested in seeing what your statistics prove. And, what happens if this is launched effectively; maybe people will ask us if we are in the fire insurance

business for those firm alarm detectors." My reaction was great, give them—and save on fire claims.

I guess it was a typical insurance company's attitude—that you want to be sure before doing something new. I guess, that's part of the business of being in insurance. But I also think that part of the business is to assume a risk. Maybe we are assuming a risk, but at least we know the limits of the risk.

We don't know precisely how many lives the seats will save. Maybe they are not going to save us the full cost of the seats. But we have already saved Michigan Blue Cross-Blue Shield many, many thousands of dollars. We have saved them because they haven't had to pay claims when children were in car seats and didn't get injured.

Now, I guess in a way I should be discouraged because I thought that by now at least one or two insurance companies would follow our lead in this program. But I am reminded of the fact that a number of years ago—more than 15—our company was the first one to be in favor of meaningful no-fault insurance and it was several years before the second company came out in favor of it. Now, I guess you know there are hundreds of companies that support auto no-fault insurance.

We did receive a couple of editorials which made the same points I have—namely, that this program is good because it is a tangible thing for policyholders and something that makes the policyholders realize that insurance is more than just a policy which had occurred or which is anticipated. When we receive the card, the information is recorded and sent to Century Products, the manufacturer of the Trav-L-Guard child restraint car seat which we have selected to distribute. Century mails the seat to our policyholders. We urge policyholders to give the seat to another family when their own children have outgrown it.

In summary, I feel it is really too bad that our approach to child safety is unique among insurance organizations because we're just one company. We will only be able to help save a few hundred children from being hurt or killed. Think how many children could be helped if several big companies were to give car seats and in the process find that they can do the right thing and still make money.

Most of you probably are policyholders of maybe two, three, or four insurance companies. If just a few letters got to some of these people, maybe they would see the light. So, I encourage you as you do "your thing" in this worthy cause if you have a few minutes, talk it over with your agent or write a letter to the president of the insurance company. Maybe you can help move this idea along.

Thank You.

Dr. Nichols: Thank you. Do you have any questions? Can we take them from the back.

Voice: I'm from Madison, Wisconsin, and Madison, Wisconsin is the home base of about 50 insurance companies, as you well know.

Do you have any plans to get on the "conscience" of your industry and just keep rubbing into their faces—nicely, of course—that you are doing this and the others are not;

that's number one. Number two, a good friend of mine tells me that the biggest problem is that the cost when a child is killed in an accident is they pay lifetime earnings for that child; therefore, death benefits are very low for the children and, therefore, the insurance industry is not going to take a look at this.

Mr. Vanderbeek: Okay a couple of things. One, if you have seen the prepared text, I was more critical of insurance companies, than I was, perhaps, verbally—and we will continue our efforts to bring this program to the attention of insurance companies. The biggest savings would be to the health insurers. You have to think of the high level of health benefits available to people in the United States and to their children. For example, in Michigan, the auto insurance law makes unlimited medical payments mandatory, so there is already a case where over a million dollars has been paid by Blue Cross-Blue Shield. I think you are right on death claims. There are going to be very few benefits. It is mainly in the health area, and that's why we are pushing that.

In our case, our standard auto insurance policy provides that there be no duplication of benefits. Benefits are coordinated. We give a reduced rate on the auto insurance policy because the "auto" has a deductible of any medical cost which is paid by the health insurance. We have the provision because health insurers generally do a better job in handling health claims caused by an accident than an auto insurer does. We don't save as much as the health insurer because 90 percent of our auto policyholders have medical benefits as a "deductible" from the medical benefits they receive from health insurance policies.

Voice: What objection does the State of Oregon have to the program?

Mr. Vanderbeek: They felt—and I think this is reasonable, although I don't agree with the position and we are still trying to change it—they feel that this is not really a part of an auto insurance policy and that a car seat is not insurance. I also have a feeling that they believed that this was a rebate and we would use it for a sales purpose. This is incorrect because we do not offer this on the basis that if you want to come to us, we will give you this. The child has to be born while you are insured. I guess really they weren't ready for something like this. We hope the Oregon department will change its mind. We are also trying to get the National Association of Insurance Commissioners to approve this as a "model" program.

Whether we will be successful, I can't be sure. It will take a while.

Voice: Is it not a legal reason why Oregon has not approved it.

Mr. Vanderbeek: No. There is no legal reason why other than the insurance company can't do other than what the Commissioner says to do. In Michigan, because we wanted to nail the issue down tightly, the Insurance Commissioner obtained a declaratory judgment by the Attorney General so we would be totally protected. It is a super ruling.

Voice: What did you look at as far as liability in distributing seats to people? Did the Attorney General look at this.

Mr. Vanderbeek: There are two things involved. Our ruling was from the Attorney General of the State of Michigan, and he said we were doing a legal thing. The second question involves questions like product liability. There is a workshop panel tomorrow that is going to discuss the question of liability. Our General Counsel will be on that panel and will discuss why we think the liability is minimal.

Voice: I would be interested to hear what you think is a minimal liability. For the past 14 months, our local auxiliary, is small, has been trying to launch the first program in Vermont. We are restricting ourselves to the GM love seat. The only problem that we have encountered so far is in trying to include the liability risk in our general liability insurance.

After several refusals to the program, Aetna, finally at our insistence, looked into the program further and agreed to cover us for a fee of \$8.15 per seat per year.

We felt that we must be backed up, needless to say, the policy of Aetna pretty much makes that impossible.

Mr. Vanderbeek: We were able to have our program included in our liability insurance policy—and I don't think we had to pay anything extra. In addition, we have increased the limit of our company's umbrella liability policy by two million dollars. We are now finalizing an agreement under which Century Products will agree, at no additional cost, to indemnify our company against any claims which may arise due to a defect in design or manufacture of the car seats we purchase from them.

Dr. Nichols: Thank you very much. Our next speaker is Dr. Michael McGinnis. He is the Deputy Assistant Secretary for Health, Disease Prevention and Health Promotion of the Department of Health, Education, and Welfare. He is a leader in the prevention of illness and injury and has been a key person in getting HEW and the Public Health Service to take a public look at prevention.

In particular, Dr. McGinnis is interested in how to make legal engineering and behavioral changes to protect children from injury.

His topic today is Accident Prevention as a Public Health Measure. Please, help me welcome Dr. McGinnis.

Dr. McGinnis: The leading public health problem for about 95 percent of the people in this room—if a quick survey is at all correct—is motor vehicle accidents by a long shot.

Motor vehicle accidents are the leading single killer for all people between the ages of 1 and 44. Every year, as you all know better than I or anybody from the public health sector, nearly two million injuries are inflicted in the American population by motor vehicle accidents. Accidents in general rank as the fourth leading cause of death in this country and 50 percent of those accidents are motor vehicle accidents.

Accidents are estimated to cost the country \$62 billion every year. Two-thirds of those costs are related to motor

vehicle accidents. Those accidents are really not characteristically ruled by professionals as public health problems. We are trying as best we can to change some of that perspective. What I am going to do now—if I can—is run through relatively quickly the conceptual framework behind the Surgeon General's report on health prevention and disease.

The first figure is the cover for the recently released Surgeon General's report on health promotion and disease prevention. This is the first report of its sort issued by the Department by the Surgeon General. It views public health problems quite comprehensively.

This figure notes some of the prominent notions that we are to consider for the issuance of such a report that is, that health and medical care expenditures are inflicting a tremendous strain on our economy. The figures here are already outdated, but we spend almost two billion dollars a year for health and medical care in this country.

The grave majority of it is for personal health services. Many of those are related specifically to accidental injuries and motor vehicle accidents. The total economic cost of illness is estimated to be some two and a half times that amount in terms of lost productivity, lost wages, and so forth. Yet many of these are preventable.

I'm going to run very quickly through some of the major presentations of the overall problems that confront the public. On the left hand side of this figure are the ten leading causes of death taken straight from the death table.

You can see that accidents and motor vehicle accidents in particular rank as the fourth and the sixth leading causes of death for the population as a whole. If you look at the problem in terms of potential years of life lost, that's the aggregate number of years lost to the population as a result of death before age 75, the problem with regards to trauma becomes much more apparent.

Motor vehicle accidents portrayed in that way becomes the third leading cause of potential years of life lost in this country. Accidents as a whole, of course, are the leading causes of potential years of life lost. You can see that accidents and motor accidents, specifically, are among the major problems of the people of the country.

This next figure shows that for each age group between 1,900—we have as a whole been improving in our health; that each age group with the exception of the 15- to 24-year age group has seen fairly dramatic improvements. The major exception to this is that of the experience of each age group with respect to accidents. The major reason that you see an upswing in that 15 to 24 age group is because of the problems related to motor vehicle accidents.

There are obviously different threats to the health of each of the age groups, as you analyze them individually.

This next figure shows what is one of the two major sections of the Surgeon General's report on health promotion and disease prevention. A section which has a chapter on each of the major age groups for infants, children, adolescents, young adults, adults, and older adults discusses the problems for each of those life stages.

As we run through them you will see that accidents present a very prominent share of those problems. Infants are not—for the most part—threatened as greatly as some other

age groups in a proportionate sense. Their problems relate to low birth weight and congenital birth defects. That's not to say, that they are not threatened by accidental injury. You have had horrifying examples today of humans being killed.

When you look at children, the problem becomes painfully prominent. The leading cause of childhood death is accidental injury. Accidents account for 40 percent of all deaths of children between the ages of 1 and 4; and motor vehicle accidents, specifically, account for 15 percent of all deaths between the ages of 1 and 4.

For children between the ages of 5 and 14, accidents account for 50 percent of all deaths and half of those are due to motor vehicle accidents. It clearly has to be one of the two major public health problems to be addressed for children in this country.

The other problem is not even related to a leading killer. It is enhancing childhood growth and development; an indication that in terms of childhood death, reducing accidents are far and away the major goal in public health community today.

For the third major life stage, that of adolescents and young adults, the two prominent subrules that are identified are that of reducing the number of deaths in motor vehicle accidents as well as reducing the misuse of alcohol and drugs. I know I don't need to point out to you all the details involved in the motor vehicle accidents, but 55 percent of all deaths for teenagers are caused by accidents and 70 percent of those are motor vehicle accidents.

For adults, the prominent problems are not specifically accident related, but accidents obviously present a major threat to them as well. The major problem for adults are cardiovascular disease and cancer; and for older adults, the age groups which has proportionately the greatest rate of death of any accidental age group, we also have to strengthen our efforts to reduce accidental injury.

We have identified, as a means of laying out the strategy for disease prevention and health promotion, the major risk factors. I think some of the gains that we have seen in public health over the last generation are that we have been able to identify the risk factors. These problems need not go on mysteriously without our knowing precisely how we can address them.

In the chronic diseases, the risk factors relate to behavior. With respect to motor vehicle accidents they relate in part to behavior, but in large part to our technical advances that we have only recently begun to employ.

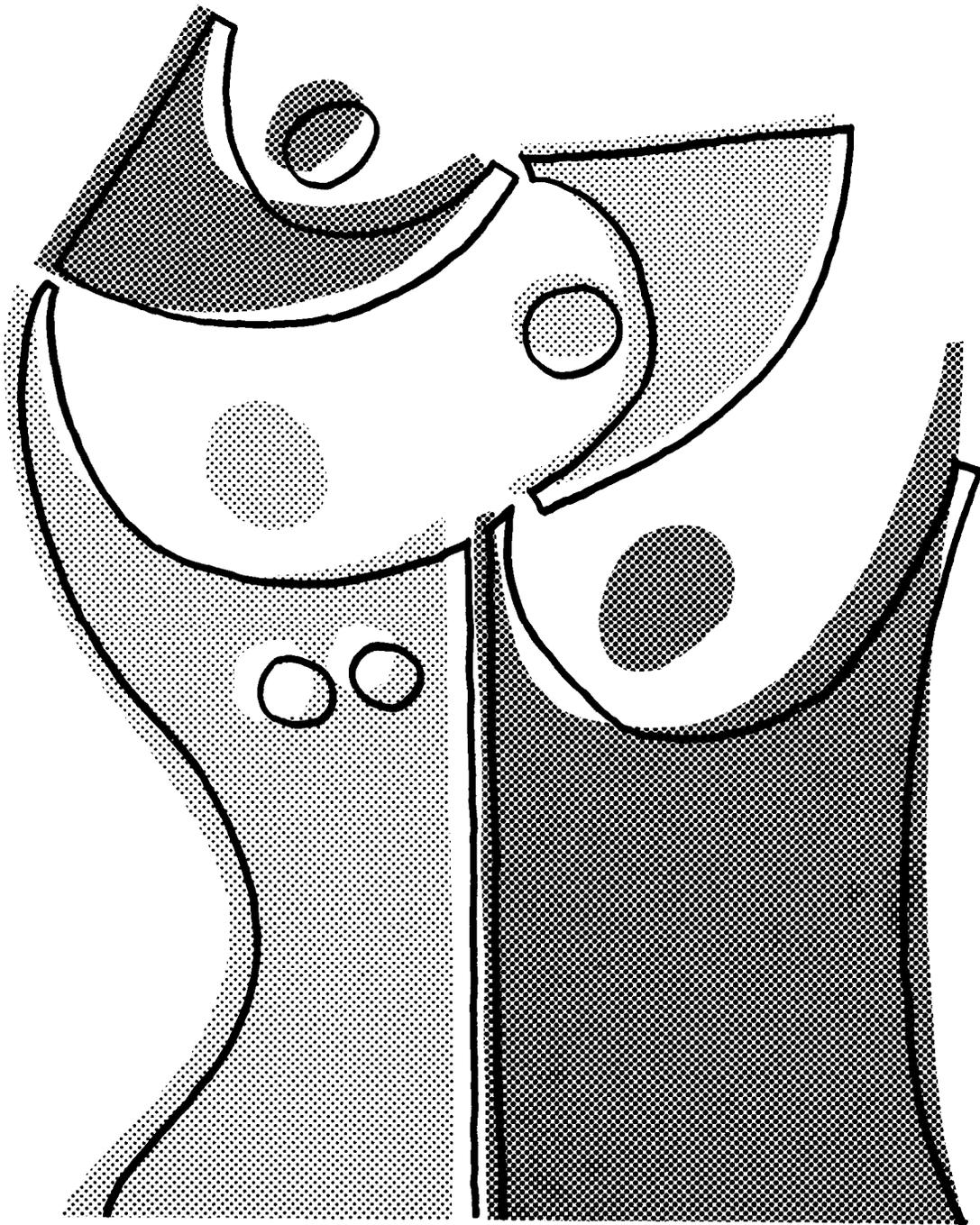
The key point in this particular chart is that there are identifiable risk factors for each of the major killers and we can begin to get strategies to strengthen the national emphasis on those risk factors.

The last figure reviews the second major section of the Surgeon General's report, the 15 key strategy targets that have to be prominent for public health improvement over the decade.

The preventative health services include: family planning, pregnancy, immunizations, and high blood pressure services. In health promotion, it includes: smoking cessation, alcohol and drug reduction, improved nutrition, exercise and fitness, and stress control.

HEALTHY PEOPLE

The Surgeon General's Report On
Health Promotion And Disease Prevention



U.S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE/Public Health Service

Total National Health Expenditures, FY 78 (Estimate)
\$192 Billion
Personal Health Care Expenditures, FY 78 (Estimate)
\$168 Billion

Total economic cost of illness is estimated to be
2½ times that of personal health care costs.

Yet . . .

- Many acute injuries are preventable, and
- Chronic diseases need not be inevitable consequence of the aging process.

Figure 37.

In health protection it includes: toxic agent control, occupational safety and health, accidental injury control, community water supply, fluoridation and infectious agent control.

Accidental injury control is an area which has been subject to extensive investigation recently in an effort to set quantifiable measurable objectives as public health goals over the next decade.

We are, in fact, in the process of setting specific measurable objectives for each of these 15 areas and hope that the measurable objectives in the accident area will help to serve as guidelines for people at the local level as they try to implement programs out of the public health sector. That, in fact, you will find new allies as we do define measurable objectives in the community to try to achieve.

Obviously, each of us as individuals can do a great deal to strengthen the public health effort in motor vehicle accident reduction, particularly, motor vehicle accident reduction with respect to the injury of children.

We can do a great deal about what we do for ourselves in setting examples for our neighbors and our children, by what we can do directly for our children and by what we can do to teach children about prudent behavior—the use of seat belts and restraints and so forth.

Behavior seems to be learned as toddlers and can influence later risk taking behavior and it is important that we emphasize prudent health habits at an early age.

Page 112 of the Surgeon General's report states that the use of child restraints should begin when the newborn is taken home from the hospital.

I do think it is important that people who are health professionals at every level take along the issue of the use of child restraints as part of a major accident initiative and take it on with vigor. There may be other benefits, of course, to the use of child restraints that I know that all of you are sensitive to. I know, as a parent, you would like to believe the evidence that children who are in protective seats are indeed calmer as passengers and it may well be that this would be an effective stress reduction for parents. There are other benefits besides the mortality benefits and these ought to be emphasized as well.

We, as health professionals in the Office of Disease Prevention and Health Promotion, in particular work on a

daily basis to try to identify health strategies for reducing the leading health problems. It is important to identify the use of seat belts and passenger restraints for children as one of the principal elements of our risk reduction strategy.

We don't know how many key preventive elements can be taken to prevent cancer. We know some of the major preventative elements; but we don't know all of them. But we do know that seat belts do prevent accidents and injuries to our children.

There are lots of other sectors besides you and me, who can help all of us who work in this area. The child passenger protection activities can be approached like many other health promotion programs at the community levels involving the school system, day care leaders, businesses, voluntary organizations, and the media. These are sectors that we are trying to involve in our overall strategy to meet these measurable objectives that I mentioned earlier.

Health professionals have finally begun to show some of their leadership in this area. Members of the American Academy of Pediatrics met yesterday to discuss their plan of action of how to motivate other public and private groups to support and supplement their efforts.

I think this is an extremely important step on their behalf. Pediatric health professionals can help by educating prospective parents on the importance of safety restraints and their proper use.

They can help as part of the education which is provided to new mothers during hospitalization and during the first few months. Nurses and doctors who work with new mothers in the hospital can be the best promoters of passenger protection for infants by encouraging them to use a child restraint during the child's first trip home from the hospital.

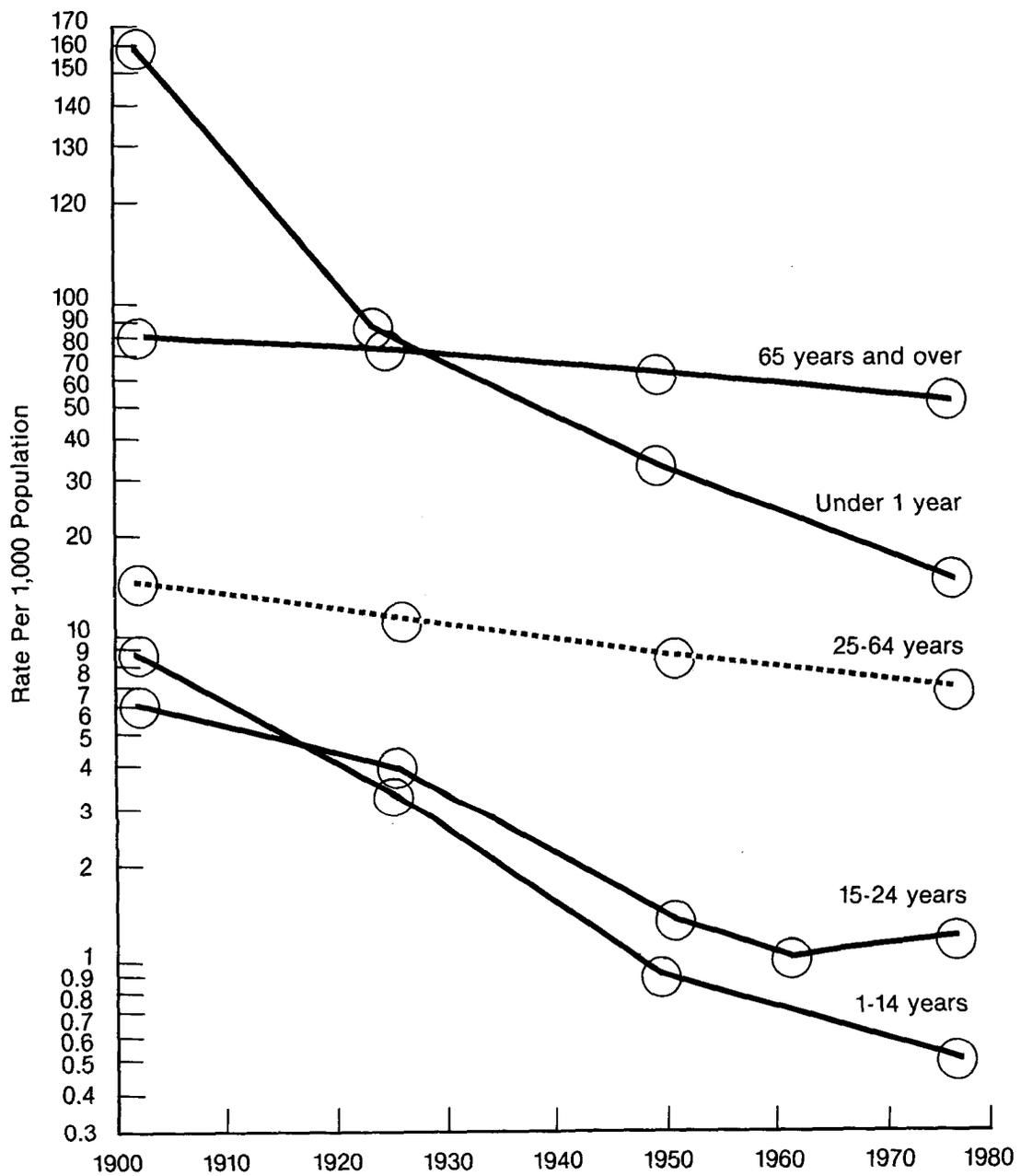
Pediatricians see mothers regularly for baby visits, immunizations, and should take this opportunity to ask the mother specifically if she is using a protective seat properly and stress its importance as well as having information available to give her and to have, if possible, demonstrations available.

All of us—whether we are health professionals, day care providers, and volunteers or parents—can participate in making the goals that you are addressing here in this Conference clearly a reality. We are capable of beginning in our own communities. I know that you are not waiting for the Federal Government to legislate and enforce the use of restraints, for it is clear that the impetus of these activities has to come from the local and State level.

I think it is clearly important that we begin to follow the programs in the States, such as the one that you have just heard about from Tennessee, and work with State and community officials to encourage the passage and enforcement of similar laws.

You ought not to limit yourself to the organizations that have already shown a commitment—the NSC, the PAS, and others—but involve organizations that can work with you in this effort and haven't yet become traditional actors on the scene.

If crippled children's organizations can provide braces and therapy for children who are involved in accidents, then I think they need to be sold on the importance of involving themselves in preventing the accidents that require the braces.



Note: 1977 date are provisional, data for all other years are final. Selected years are 1900, 1925, 1950, 1960 (for age group 15-24 years only), and 1977.

Source: National Center for Health Statistics, Division of Vital Statistics.

Figure 38. Death Rates By Age: United States, Selected Years 1900-1977

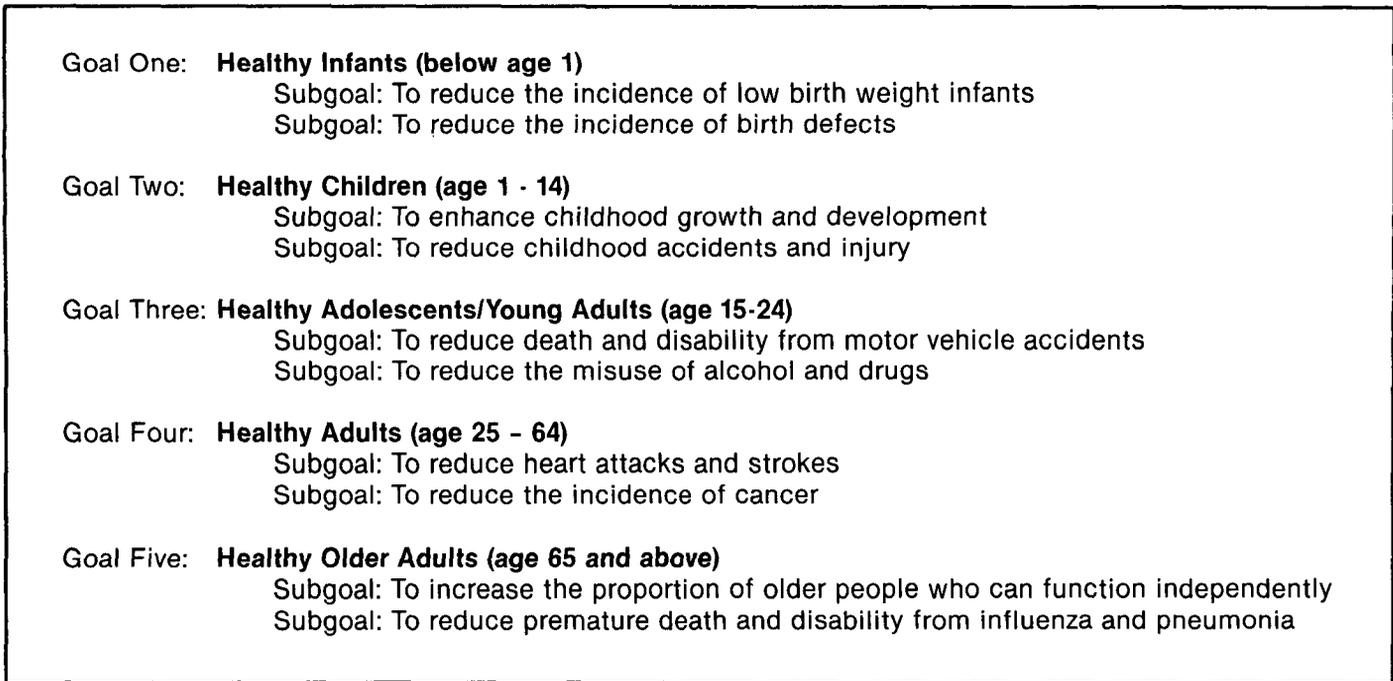


Figure 39. Health Status Goals

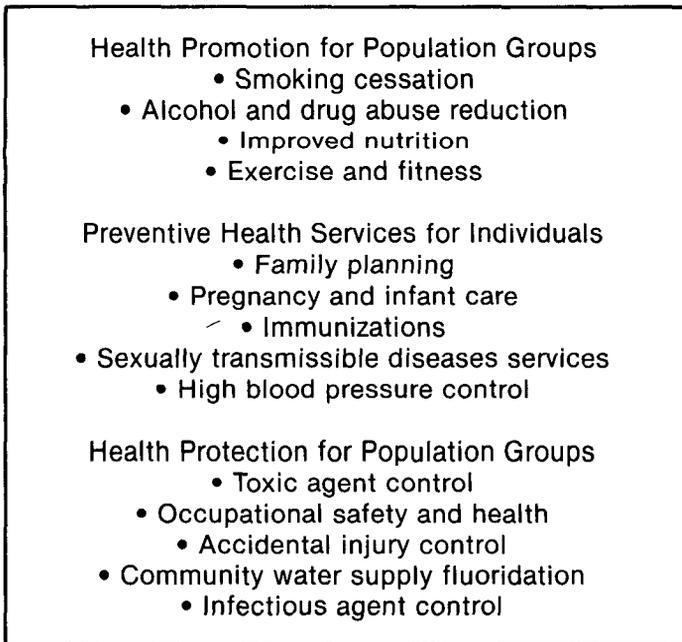


Figure 40. Health Strategy Targets

Your efforts at the State and local level could persuade many of these groups to change some of their policies to incorporate accident prevention efforts and to provide seed money for these efforts.

You are obviously interested in what can be done at the Federal level to help in this regard. I think, that the Surgeon General's report—and the Surgeon General himself has personally committed the Public Health Service to enactment in the area—is a clear indication that we will see a greater financial commitment for these activities in the future.

Child restraints will be incorporated into the measurable objectives for the next decade. I, and other people, will be meeting with officials from NHTSA to discuss ways in which our two departments can develop programs in concert and together we will look forward to exploring programs that serve mothers and children and incorporate health protection messages into these activities.

It is clear that the Office of the Surgeon General can and must be more prominent in reaching out to help professionals to encourage their more active involvement in these issues. The International Year of the Child couldn't provide a better and more appropriate time for your Conference and for the recognition of these issues that imply a major public health problem for our children.

The measures are critical and approaches to strengthen them are critical, if we are truly to be a nation of healthy people, as the Surgeon General's reports hopes.

Thank you.

Footnotes

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Public Policy Workshop

The Public Policy Workshop, one of four concurrent workshops, conducted at the National Conference on Child Passenger Protection was designed to address the issues surrounding the administrative and regulatory aspects of child passenger safety. This discussion was to be generated by informal presentations by a number of speakers specifically invited to appear at the Workshop. The Workshop was divided into five timeslots with each timeslot being geared to a specific topic. The five workshop topics include:

1. Child Passenger Protection: Your Legal Responsibilities.
2. Product Liability: Considerations for Distribution Programs.
3. What Avenues Exist in the Health and Human Resources Area to Promote Child Restraint Use.
4. Issues to Consider in Determining Public Policy.
5. Coordinating a Comprehensive Statewide Child Passenger Safety Program.

The moderator for this workshop session was David B. Shinn, Public Information Executive with the Michigan Department of State. The following narrative will present some of the most important issues, problems, and solutions raised at these individual workshop sessions.

Session 1: Child Passenger Protection: Your Legal Responsibilities

This session discussed civil and criminal liability issues as they pertain to parents protecting their children and institutions, such as hospitals, providing (or not providing) information on child restraint use to parents.

Dr. John Lutzker, a behavioral psychologist, from Southern Illinois University views the failure to use a child restraint as a form of child abuse. He wants to teach parents to "interact more positively with their kids" as a means of increasing restraint use. "It takes more than verbal behavior to get people to change their behavior. It takes what is called contingency, the environment simply has to be arranged to increase the likelihood of people changing their behavior and it seems that information is not the way they do it."

Dr. Lutzker pointed out the need not to ask people if

they know how to use a car seat, but to watch them use it to be certain it's used properly. He emphasized that if you are going to teach children, or look for behavior changes in adults, that they must go through an experience—practice it, don't just discuss it.

Dr. Lutzker sees improved behavior as a possible side effect of car seat usage. He further emphasized that the risk of not using a car seat is the increased chance of the child incurring a developmental disability, i.e., brain damage as the result of a car accident. When there is an impaired child, abuse or neglect is more likely.

The question was raised about how low-income families would respond to the argument that nonuse of restraints is a form of neglect. Dr. Lutzker indicated that it would not reach them at all.

Robert Miller, an attorney with Jacobs and Miller law firm in Southfield, Michigan is representing the family of a 13 year old boy who was killed in a schoolbus accident. Mr. Miller is suing on the theories of negligence and breach of warranty. He presented the facts of the case as stated below.

Thirteen year old Scott was riding in a van painted schoolbus yellow sitting near a double door on the right side of the vehicle. At the time of the accident the van, designed to hold 15 people, was taking Scott and 17 other children home. None of the children were in restraints and, in fact, no restraints were accessible to them because they had been tied under the seat. As the van crossed an intersection it was hit by another vehicle. It is believed that the van rolled over 1¼ times and then skidded. Scott's head violently hit the roof of the van. He was ejected through the double doors and was killed.

In arguing the case Mr. Miller noted several important doctrines in the law which bear upon the negligence aspect of the suit:

1. Collisions are foreseeable; they are within the intended use of the vehicle. The authority for this doctrine is *Rutherford v. Chrysler Corporation*, 16 Michigan Appeals 392 (1975); and *Gossett v. Chrysler Motor Corporation*, 359 F2d 84 (1976).
2. The manufacturer has a duty to use reasonable care in the design of goods to protect those who use the goods for unreasonable risks and harm while the goods are being used for their intended purpose, or for any purpose which could be reasonably expected.

This implies that a manufacturer need not make a crash proof vehicle, merely a crashworthy one.

3. Mr. Miller's precedent for the current case is that of *Lawson v. General Motors*, 391 F2d 495 which allows recovery for defects in design which compound the injuries upon collision.

In arguing that the school was negligent Mr. Miller reached the following conclusions:

1. We have a right to expect a reasonable selection process for a vehicle used to transport children. Such a process was not followed.
2. We have a right to expect that the institution knows the intended use of the vehicle.
3. The school has the following duties: to research what is available in vehicles; to know applicable Federal and State laws; to know the standards of the community, to train and educate children and drivers in the use of restraints and in the proper behavior when traveling on a school bus. All of these duties have been breached here.
4. In the law a common carrier has a very high duty when transporting anyone. The school was acting as a common carrier. When the children were not made to wear seat belts and did not even have seat belts accessible to them, it was because the school had violated its duties as a common carrier.

Mr. Miller contends that the manufacturer was negligent because it knew that the vehicle was to be used as a schoolbus and that it had to meet school bus standards, yet it didn't. The final verdict was left open since Mr. Miller's point was to indicate where negligence could be applied.

Professor Joseph Little, from the University of Florida Law School, discussed how the judicial process intervenes with consumer demands and governmental regulation to produce safer vehicles. He noted that the benefit of law suits dealing with a manufacturer's liability is that if the manufacturers feel they will lose enough law suits, they will design vehicles to be safer and thereby avoid law suits. The idea that the manufacturers can be held liable because the interior of the vehicle is more dangerous than the law says it should be is a new one, popularly called the crashworthiness doctrine. It means that the manufacturer is responsible to foresee that any vehicle will be involved in crashes and they are responsible to design their vehicles so that the interiors are reasonably safe (though they are not expected to be crash proof) in the event of a crash.

Mr. Shinn questioned whether there is any case law saying that the school district has a responsibility to have seat belts operable and to ensure their use when children are transported. Professor Little's response was that it is really a question of what duty the school district has to children. Is there a duty to foresee that there may be a crash, even if there is a safe driver, and to cause vehicles to be safe or to cause the children to use seat belts? Professor Little believes that courts will rule there is no such duty.

Dr. Robert Vinetz, a Los Angeles, California pediatrician asked if the parent is negligent by not making his/her

children buckle up or if the doctor is negligent for not informing parents that if they don't buckle up their kids they're exposing them to the leading preventable cause of death? According to Professor Little the law does not like to impose duties on people who are not in a position to govern what is likely to happen, therefore a doctor is not likely to be held responsible. Stephen Teret, an attorney at Johns Hopkins School of Public Law, added that there are no cases imposing liability on physicians. There is adequate precedent, however, for imposing liability on parents to supervise their children and that this could carry various penalties. Mr. Lutzker noted that a moral issue is also involved here and urged medical schools train physicians in auto safety issues.

Stephanie Tombrello asked if you always restrain your child but there are either no belts available or the belts are not used on the school bus and your child is injured is there a case against the school district. Professor Little responded that if a jurisdiction has placed a duty on the school district to provide buses that are reasonably safe to ride in, yes you would have a case. If the jurisdiction has not gone so far, then no. Most jurisdictions are moving toward acknowledging this duty but it is still a developing area of the law.

Session 2: Product Liability: Considerations for Distribution Programs

The problem to be addressed in this session is that of paying liability insurance and a reluctance on the part of many organizations to get involved in distribution programs because of the fear of potential liability and an inability to get coverage at a reasonable price. The questions for this session are: What is the problem of liability? What is the experience with liability imposed upon rental programs? What is the position of the insurance companies? Why are they taking a negative view of rental programs? What can we do to eliminate or modify these problems in order to increase the establishment of rental programs nationwide and to increase the number of restraints used in each community?

Roni Tortorici, U.S. Jaycettes Buckle Up Babes Chairperson, discussed the issue as it has affected their chapters. The Jaycettes original Buckle Up Babes program in Michigan, which began about 5 years ago, has had no liability problem and no lawsuits, but suddenly the Jaycette programs are having trouble getting insurance. Chapters won't start the Buckle Up Babes program because they're afraid to operate without insurance. The experience of the New York Chapter was cited where their current liability policy was threatened to be canceled by the Hartford Insurance Company if the Buckle Up Babes program was implemented. This particular group wound up being insured under a General Motors policy, as long as they only distributed GM seats.

Michelle Foreman from Vermont Porter Medical Center described their experience with the Aetna Insurance Company. The local agent said the program was uninsurable and that the company would cancel the insurance policy for the auxiliary if such a program were run. The Regional Officer also said the program was uninsurable. The home office of Aetna finally agreed that for \$8.59 per year and many stipulations the program would be insured. The insurance company was concerned that claimants would say they had not been

sufficiently instructed or that they had been improperly instructed in the use of the seat. The insurance agent required the renter to sign a document that a demonstration and written instructions had been received.

B. J. Campbell, from the University of North Carolina Highway Safety Research Center, noted that given the insurance industry's longtime interest in safety it would be a shame for them to become an obstacle in a program which should be bringing them public acclaim. He pointed out that it appears that these decisions (not to offer coverage) are being made at a low level and minus any actuarial experience. Some contact with individuals at a more appropriate level appears warranted.

Mr. James Edward, General Counsel for League General Insurance Company, discussed how his organization's distribution program operates and how they are dealing with liability as an insurance company. When a small child becomes a member of a policyholder's family through birth, adoption, etc., the policyholder becomes eligible for a free car seat. If they desire to obtain one, the policyholder notifies the insurance company who then verifies that the person has a policy, and subsequently notifies the restraint manufacturer. The manufacturer sends a seat, in its original package and with directions, to the policyholder. League General's approach to the liability issue begins with the design of the program. The seats are sent directly from the manufacturer to the policyholder. The company doesn't store them or instruct people in their use. It is as though the policyholder purchased the restraint from a store.

League General felt they had at least two areas of liability to consider. One, the selection of the seat, since they were imposing their choice on the policyholders; and two, the operation of the program itself. There could possibly be liability if there was a delay in sending the seat and the policyholder, in expectation of receiving it, doesn't buy one and the child is injured. However, this is not likely to happen. There would also be the intervening cause of the failure of the policyholder to buy a car seat.

Prior to implementing the program, League General explored the claims history of child restraints to determine what, if anything, was happening in the field of liability. Nothing was discovered and it appears that to date no suits have been filed. Their attorneys reviewed the company's policies to assure coverage and informed their liability carrier of the planned program. The carrier had no reaction, however, the size of League General's policy, Mr. Edwards noted, could have been the reason the carrier did not balk.

Further, League General obtained a vendors endorsement from Century Products. This is the same endorsement a manufacturer would give to an ordinary retailer. It covered up to \$1 million in liability. League General is also interested in a hold harmless agreement but hasn't yet been successful in getting one.

Mr. Edwards acknowledged that the program is not free of risk but League General feels that the liability problem is remote and that reasonable steps have been taken to insure and properly protect themselves in the event of a suit.

As an aside Mr. Edwards noted that League General already had documented 13 cases where children, secured in seats obtained through the company, were uninjured in ac-

cidents where the property damage values ranged from several hundred to several thousand dollars.

Steve Oesch, an attorney with the National Highway Traffic Safety Administration, pointed out that product liability concerns are really those of the manufacturer, who would be the principal party in any lawsuit. He noted the three types of product liability suits that would pertain to a defective product.

1. **Manufacturer's defect:** Where the manufacturer sets a specification for a product which is not followed, perhaps inadvertently, during manufacture.
2. **Design defect:** Where the product meets the manufacturer's specifications, but the specifications are inadequate for the product's intended use.
3. **Failure case:** Where the product can be put to several uses, but the manufacturer does not adequately warn that the product may not be equally safe under all circumstances.

He then cited the precautions that any organization renting, loaning, or selling child restraints should be certain to take.

1. Thoroughly inspect each seat to be sure it has all the necessary equipment provided by the manufacturer.
2. Provide instructions. Go over any major warnings, show how the seat is properly used, and then give the person the written instructions to take with them.
3. If a restraint is involved in a crash do not use it again. See that the seat is destroyed.

Further Mr. Oesch recommended that every organization obtain a lawyer to help them set up a corporation and assist in tax and other matters. He noted that many lawyers are willing to work on a pro bono basis and that getting legal assistance should be free.

Mr. James Kimball with the American Insurance Association explained the liability issue from the insurance company's perspective. He indicated that the key to understanding the underwriting process is predictability. In the child restraint area there is a total lack of predictability. This is why there's resistance on the part of underwriters. On the legal side would be the issue of design defect. He cited a California case that established that a product may be found defective in design if the plaintiff demonstrates that the product failed to perform essentially as an ordinary consumer might expect in an intended or reasonably foreseeable manner. These cases are very difficult to assess due to their subjective nature. The plaintiff will often be able to show a product defect by using circumstantial evidence, so the specific defect need not be identified. A product may be found defective in design even if it satisfies ordinary consumer expectations. If the jury determines that the product design embodies excessive preventable danger, then the risk benefit standard is applied. Under this standard the jury may consider the gravity of the danger posed by the challenged design and the likelihood that such danger would occur, the mechanical feasibility of a safer design, the cost of improved design, and the adverse consequences to the consumer of an improved product design.

Mr. Kimball continued that the industry is uncomfortable with a new, rapidly developing liability statistic. There is no experience on which to base a rate. If there were a few accidents, an underwriter might be able to come to some conclusion as to how severely the child would be damaged. If you're dealing with a child who may have a very long life-span, it would create a very high severity situation. The key is finding a good agent who has exposure to lots of different companies. It's an educational and a selling process. It seems now that there is some erosion in this reluctance and things seem to be moving in the right direction. Mr. Kimball went on to explain some of the problems in the underwriting process. Considerations must be made such as—if you have a rental program you have to think about things like modifying the product—do you give the manufacturer's instructions or do you modify the instructions? When the product is returned do you do a safety check to see if their equipment is still in good condition?

In terms of establishing a mechanism to work with the insurance industry to resolve this problem, Mr. Kimball suggested that chief executive officers, not local underwriters were the persons to be approached. He committed AIA to work with the individual companies to solve the liability problem.

Session 3: Issues to Consider in Determining Public Policy

This session addressed what could be done administratively that would affect the public's behavior and attitude towards the protection of children.

Stephen Dirk, Mayor of Ogden, Utah described the three city ordinances that have been in effect in Ogden since January 16, 1969, that pertain to child and occupant protection. The impetus seems to have come from the police department, from officers who had witnessed tragedies to children in the discharge of their duties.

There are two parts to the same ordinance that deal with children: Section 14-15 which reads "No vehicle driver shall have on his lap any person, adult or child, or any animal, or shall be seated in the lap of any person while the vehicle is in motion." Chapter 16 of Title 14 was amended by adding the following new section: "Driving with a person standing on the seat: No person driving shall operate any vehicle while any person or child is standing on the seat of such vehicle."

The course of enforcement in the last 10 years has been interesting. Today about five tickets per month are issued for violations of these orders out of about 1,100 tickets issued per month for the enforcement of all traffic ordinances. It is felt that this is a fairly good level of enforcement because the enforcement is done more for education than strictly for punishment.

The fines levied by the judges average \$25 for each offense. This is high enough to make anyone ticketed for the offense take notice. The judges feel this is more an educational process than a major source of income for the City of Ogden.

Occasionally a police officer will issue more tickets than his fellow police officers. During the past six months one officer who was assigned to the traffic detail issued an

average of 15 tickets per month for this offense. When his background was examined it was found that he had witnessed injuries to small children in violation of this offense. The important thing in enforcement is the police department's perception of the importance of this type of ordinance.

The law generally has the support of the judges. People who come before the court are fined on a consistent basis. According to the judges, violators don't speak against this ordinance as they do against others. Most people are chagrined that they committed a safety violation that put the lives of their children in jeopardy.

The ordinance and the enforcement of it seem to be having an effect on the population generally. Mr. Dirk was surprised to find a number of people who were aware of the ordinance and who reacted to it positively. This kind of thing could be recommended to other communities because it serves a positive purpose and provides an additional tool for the police department and the judiciary to protect the members of our society who are least likely to protect themselves, that is the children of the community.

Mr. Dirk felt that the ordinances are successful because they don't require any sort of special equipment that is not readily available in automobiles generally and they can be enforced by an officer making an observation. He thought that a requirement for seat belts or special restraints for children would have to be part of a national program. In other words, if Ogden City were to require a special piece of equipment, not available generally, it would be difficult to get people to go along with that. But if a piece of equipment were available generally, as part of a national program, it would be possible for cities to step in and do their part in enforcement. Mr. Dirk also noted that city policy requires that any employee of the City of Ogden wear a seat belt during the operating of a vehicle. The police department again is the biggest supporter of this policy.

Mr. Dirk did see the possibility of child restraint legislation being passed in Utah in the future, because the protection of children is a high priority. He also thought requiring children to sit in the back seat would be profitable and could be enforced.

Mike Ellis, the Governor's Highway Safety Representative from Tennessee, discussed how their child restraint law got passed.

The key to getting the legislation passed, the second time it came up in Tennessee, was that sponsors were powerful legislators sponsors. In the House, it was the Chairman of the Finance Ways and Means Committee. The Democratic Majority Leader was the sponsor in the Senate.

First of all, you have to go to every committee hearing and legislative session. Developing police support is extremely important. In Tennessee the Commissioner of Safety sent the legislature a letter saying enforcement would not be a problem. The physicians, neurosurgeons, and dedicated pediatricians who left their practices to help out were extremely important. We also had a real world example that helped us get the vote out of committee. The little boy was running around with scars all over his head, while a Senator tried to tell the boy's father that instead of trying to get a law passed he ought to be suing the Volkswagen Corporation to get the medical bills taken care of. The father's response was that he

was doing what he had always been told was best for his child. He had him sitting in the back seat. He was no longer sure sitting in the back seat was as good as it sounds.

Another important thing is to neutralize the lobbyists who are against a child restraint law, although Mr. Ellis noted that there was no organized opposition to the bill. The on-lap amendment to the bill was done by sincere, misguided, misinformed people. The legislator who put the infamous "child crusher" or "babes in arms" amendment in really believed he was doing young mothers a favor.

When questioned about the attitude of the police department toward enforcement, Mr. Ellis stated that the Highway Patrol supports it because the Commissioner of Safety is absolutely dedicated to it. The City of Chattanooga has a fairly good program. There are individual officers throughout the State who are dedicated to it but as a policy it hasn't stirred up that much interest. Tennessee now is in the process of supplying brochures to the policy, and has begun a police in-service training program.

Dr. Robert Sanders, the Tennessee pediatrician who was responsible for getting the Tennessee law passed, elaborated on some of the more effective approaches in reaching legislators. The pediatricians took a unique role here, being interested in something the legislators did not look at as being self-serving. On paper we had the endorsement of the major medical organizations of the State, including the Tennessee Medical Association. We learned from our experiences the first year, so the second time around we were more organized. We learned not to go in front of the committee alone, we learned we could get visibility from the media, we generated medical articles, and we learned to sit in the front row and eyeball the legislative committee everytime they met on a critical issue.

Probably the most effective thing was having the young father whose child has sustained a brain injury and \$6,000 worth of hospitalization weeks before the bill came due, talk in his own simple way about if there had been a law and had he honored it, he didn't believe his child would be hurt and he wouldn't be out \$6,000 for medical care. You need to see if you can find that kind of witness to testify.

Dr. Sanders went on to explain that the fact that the bill passed by only two votes makes it more difficult to amend. He acknowledged that the bill has three damaging amendments and what changes he hopes to see.

One is that big trucks are exempted, that is, any truck over 1 ton. It does not apply to pickup trucks of which there are several hundred thousand in every State. And it exempted a child who travels in a recreation vehicle. The most damaging amendment was the "babes in arms" clause that caught everybody by surprise. We were assured by legislators that the law would not have passed without it. It barely passed with it in. It left an out, according to the people who pushed it, for low income people who couldn't afford a child restraint.

The second thing we have to work on in order to get the "babes in arms" amendment overturned, is enough statewide loaner programs so that low income folks will have access to cheap seats. Then we can go back to the legislature and say look, here's what we have. If your objection to the law is now satisfied maybe you'll be willing to knock out the "babes in arms" amendment.

Tom Reel from the Michigan Association of Traffic Safety mentioned the \$50 tax credit bill that is being considered in his State as one means of helping low income families.

Representative Mary Edelin from the South Dakota State Legislature identified some of the problems she faced in her State where the bill was defeated in committee. While the pediatricians supported the bill, the South Dakota Medical Association did not testify. In committee we heard all the arguments against mandatory child restraints, particularly that parents should be allowed to determine the fate of their children. We heard about the costs, the problems such as restraints to the poor; they even discussed the fact that the car seats and seat belts were too confining and children should be allowed the run of automobiles, vans, and pickups.

South Dakota's plans are to introduce a bill in the 1980 session, beginning in January. It will have the endorsement of the South Dakota Academy of Pediatrics. It will also have the complete support of the Department of Public Safety and the Highway Patrol. The bill will require that all children between the ages of birth and 13 years be placed in the rear seat, preferably using seat belts. If a child is going to be seated in the front seat the child must be in a seat belt or child restraint, depending on the age.

The law would not be enforced until July, 1981. This would give the public a year or year and a half to understand the law. During that time, enforcement would mainly be by way of public information. When a driver is stopped by a patrolman for a moving violation and the patrolman notices the children are not properly seated, he/she will inform the parents about the law and will ask the parents to comply for the welfare of the child. In 1981 this will become a petty offense, carrying with it a \$20 fine.

Mr. Shinn asked, if in terms of getting a State law passed, if knowledge of the impact on the State's budget of the deaths and injuries of children play a significant role in attitudes towards legislative proposals. Rep. Edelin responded that South Dakota tried that with the motorcycle helmet repeal bill but it didn't work. Our legislators can't seem to understand that there is an economic impact when adults and/or children are involved in accidents.

The question was raised about the alternative of putting a child in the back seat versus child restraint use versus the on-lap provision. Dr. Sanders pointed out that, significant numbers of children are killed in the back seat, so they should be in restraints or seat belts if possible. However, he would prefer to see a child required to ride in the back seat instead of on an adult's lap.

The last speaker, Dr. Arthur Yeager, a dentist with the Physicians for Automotive Safety discussed the problem of school transportation. Everyday 400,000 schoolbuses take 22 million kids back and forth to school. The buses are built for economy, not safety. Next year 50,000 schoolbus accidents will occur. We can't grasp the number of children who are injured in these schoolbuses. When we investigated the accident statistics we found that only accidents which take place between home and school are counted. Accidents which occur on field trips aren't included in the accident statistics. If every objective of this conference is achieved

then we'll have our children sitting in restraints, well-protected until they get to kindergarten and we put them on the schoolbuses.

When we questioned our local school district about putting padding on the bars so that when the bus stops short people won't hit their faces on the bars, they said they would love to, but they don't own the buses (they contract for them). The contractor said he'd love to help, but he has to serve 10 school districts and he can't do this for just one district if the other districts don't want it. We talked to some school districts about upgrading their own buses with padding and higher backs and seat belts. The district officials thought this was not a bad idea so they went to the State Department of Transportation for permission. The State people said that seat belts are out because you're better being thrown clear in an accident.

In our research on the amount of protection offered we found that schoolbuses are put together poorly, the seating is inadequate, and there is a lack of restraint systems. Finally, in 1974 NHTSA issued a proposed standard. It required a 32 inch high seat, sufficient to prevent whiplash; the seat was to be fully padded and have a seat belt; it called for triple the number of rivets so it doesn't fall apart in accidents; and the gas tank was improved. Then the second notice came out. The seat back was dropped to 28 inches. In the third notice the seat belt requirement was removed and only the anchorages were left. By the fourth notice the seat back was dropped to 24 inches and the anchorages were removed. All this as a result of enormous lobbying by the industry. So here we are with half a standard.

Now we have to get together and lobby our legislators at the State and local level. The easiest way to improve anything is to have the Federal Government set a standard—that's what we all have to work for.

When asked about the costs of converting a school bus, Dr. Yeager stated that school buses cost about \$22,000. For probably another \$1,500 seat belts could be installed and the seat backs could be higher. School buses have an average life of 13 years, so they are cheap, cheap transportation.

Carol Fast with Action For Child Transportation Safety added that seat belts for every kid cost \$90. High back seats—\$150. Two emergency escape hatches—\$150. And an extra door on the left side, a floor level emergency door—about \$250.

Lastly, Dr. Yeager pointed out that if there were individual seats rather than benches there would be some valid usage for the seat belts. But with elementary school kids sometimes it's necessary to put four little kids on the bench seat and then you can't use seat belts.

Session 4: *What Avenues Exist in the Health and Human Resources Area to Promote Child Restraint Use*

This session discussed what areas of Government exist for influencing the behavior and attitude of families toward protecting children in vehicles. It further addressed what changes can be made within the State Government system, using existing authorities and existing resources. C. Ernest Cooney from the Wisconsin Department of Public Instruction discussed his State's efforts to implement child restraint

use regulation. He pointed out that one of the first things to do is find out what the structure is and who the people are who make decisions in the different health and social agencies in the State.

They found it not too difficult to get the County Social Service Department to establish a policy that the foster parents of any child under the age of 4 must provide a safe child restraint for that child before the papers are signed and the child is adopted. They found that instead of being looked at as a bureaucratic mess, a lot of parents said thank you, we just didn't think of that before.

Another approach is through a State's Day Care Code. We were able to influence that administrative process so that children under 4 transported by day care centers must be in safe child restraints or at least in vehicle lap belts. As of April, 1980, Wisconsin will require that children between 18 months and 3 years in day care programs be transported in safe child restraints or in lap belts. Children under 18 months must be in child restraints.

Mr. Cooney noted that almost every State has an Early Periodic Screening and Diagnostic series (EPSDA). This is an attempt to get children and families under a certain income level into a continuing health program. This is a program where you can have an administrative decision made that child restraints will be at the site and will be shown to people coming in for screening. Also any children transported by public health nurses should be required to be carried in safe child restraints.

Dr. Minta Saunders, Assistant Secretary for Children in the North Carolina Department of Human Resources explained their efforts to involve numerous groups through a series of regional workshops. They invited people from the health and highway safety areas in addition to people from the Cultural Resources Department who are responsible for the library programs, since they are the people involved in disseminating information and educational materials, and are in the loaner business.

Another thing that is critical in our effort in North Carolina is that we don't see Human Resources doing the job alone. We have to have the participation of the private physician as well as the public health people. All this is incorporated into the plan for child health in the State.

Dr. Saunders suggested several other ways of reaching parents and children.

- Insert child restraint literature when checks are sent to mothers receiving Aid to Dependent Children.
- Include education on child restraints when training foster mothers, training mothers who are involved in developmental disability programs, or other Title XX programs.
- Build child restraint and seat belt information into preschoolers' fall introductions.

Martha Katz, Special Assistant to the Deputy Assistant Secretary for Health (Disease Prevention and Health Promotion) discussed the Federal programs under the Department of Health and Human Services that can be utilized to

promote child passenger safety. Ms. Katz recommended encouraging the State health departments because they receive the money which could be used for child restraint programs. The Child Health Program receives grants for child health services. The States determine how the money will be used and what the priorities will be. It is the responsibility of each person to talk with people in the State health department and tell them to make child restraints a priority when they're developing their Maternal and Child Health plan. Mothers who come into the health department could be taught about child restraints.

A second resource is a new program passed by the 95th Congress, but not yet funded. This is Section 315 of the Public Health Service Act, a formula grant for better health services. Under this legislation each State is to have a plan based on the five leading causes of death and disability in that State. In almost every state motor vehicle accidents are a major problem. The legislation requires that 15 percent of the money received by each State be used for communications. PSA's can be developed by the State Health Departments or materials can be written supporting child restraint use.

Ms. Katz suggested looking for help in some of the less traditional places. In some States health information is distributed by the Agricultural Extension Agency.

Janine Stevenson with the Michigan Department of Social Services described Michigan's efforts to change administrative policy. She noted that the statutory regulatory policy requirements are key in the use of child passenger restraints and child safety. In Michigan there is united support among the departments of State, Transportation, Education, and Social Services.

In Michigan there is a public act which provides for the protection of children in licensed child care facilities. If child care centers begin to use restraint devices, they can educate the public and parents about their proper use. She mentioned that the liability issue is very good in encouraging licensed child care agencies to utilize child restraints.

Another means of effecting policy is the development of reasonable legal requirements. A promulgated rule is preferable to a policy because a rule gives you legislative support in the event of administrative and circuit court hearings. When you design regulatory and policy requirements you must show how it is in the public good and weigh the balance between cost impact and the level of protection afforded.

Our division has stressed the involvement of the public right from the beginning. We established an advisory committee made up of members who are familiar with the use of restraint devices and other child protection safety requirements to support development of the rule. The procedures included drafting the administrative rule, conducting public hearings, modifying the rule as needed, submitting it to the Attorney General to determine if there is any conflict with existing statutes, and then submitting it to the joint committee on administrative rules.

During this activity we became aware of the need to develop emergency rules for children in care between the ages of 2 weeks and 2½ years. The emergency rules were implemented and have now become department requirements,

but it took eight years to accomplish this. Three things are required to effectively implement such a child restraint program: (1) obtain the support of the public and the providers; (2) establish reasonable requirements for the providers; (3) develop interagency coordinating efforts.

Dr. Robert Vinetz, a pediatrician from Los Angeles, California discussed how pediatricians can be influential in changing policies regarding the safe transportation of children. He emphasized that this is the one of two major public health issues facing children in this country. It is a public health issue that has been grabbed onto by non-physicians.

There is one area in particular where pediatricians can be helpful. There is research in the pediatrics and health literature that talks about attempts to stimulate usage. But the reports and the literature are variable. There have been few scientifically good studies which show that anybody is affected by programs aimed at increasing restraint use. One thing you can do is let pediatricians know that more research needs to be done. You may set up loaner programs, but if somebody hasn't done research to show that the programs are effective, you're going to have a harder time getting support for them.

Work with pediatricians in terms of what they do with their patients; how they, as individual pediatricians or as part of their county pediatric society, can affect the policies of government agencies and institutions at the community, county and State levels. Hospital accreditation could be contingent on an infant restraint program. Look at how the State pediatric association (which is already primed to be an advocate for child safety as part of the Speak Up For Children program, sponsored by the American Academy of Pediatrics) can have an impact on the public's and the Government's perceptions of what they ought to be doing and how they ought to be allocating their resources.

Dr. Vinetz also discussed how California obtained the donated services of a political fundraising expert by mailing out a letter to every pediatrician in one district asking for a \$5 donation to help start the program. That money was used to pay a financial expert to go out and raise more money so that a program coordinator could be hired.

Session 5: Coordinating a Comprehensive Statewide Child Passenger Safety Program

This session discussed the administrative aspects of coordinating child passenger safety projects run by different organizations so that resources are maximized. State agency activities, statewide community activities, and localized community activities will be considered.

Dianne Sontag from the University of Tennessee Child Passenger Safety Program (CPSP) discussed coordinating activities around the State following the implementation of the child restraint law. The Tennessee Highway Patrol's involvement, which has been especially gratifying, has two aspects to it. First, they have a one hour in-service training session on child restraints to assure that officers are informed when they stop a car for violating the law. The CPSP helps coordinate these training sessions. Secondly the

Highway Patrol has their loaner program. Under this project the State bought 750 child restraints to place in the patrolmen's cars to loan to people cited for violating the law. After issuing a citation, the officer loans the parent a child restraint to be returned in court. If the parent can show proof of purchase of their own child restraint in court, the officer will ask the judge to drop the charges. Over 300 citations have been issued since September when the program began. The Chattanooga City Police operate a similar program. In Chattanooga the violator may be required to watch a film on child passenger safety.

Ms. Sontag indicated that 11 areas in Tennessee are operating or plan to implement loan programs including an American Automobile Association (AAA) Chapter. The State Jaycees have adopted child passenger safety as a statewide project, and the Tennessee Public Health Association has endorsed the activity. Other civic groups, hospitals, physicians and day care centers have also become involved.

Just by being aware of all the activities that are going on in the State has been the major way the CPSP program has tried coordinating. Statewide associations or organizations might be helpful in coordinating such varied projects. Ms. Sontag noted the need for clearinghouse to disseminate all the information that is being collected.

Phil Deemer from the Pennsylvania Department of Transportation addressed their plan to implement child passenger safety activity across the State. Mr. Deemer began by offering to share the public information materials developed for the Pennsylvania DOT program with other States as one means of coordination. He mentioned that copies of all the materials would be sent, along with a letter, to every Governor. In addition they have an eleven minute film aimed at prenatal education that is available for \$35. All the material is available by writing to Phil Deemer, Transportation Department, Harrisburg, Pennsylvania 17120.

Mr. Deemer encouraged State highway safety planners to utilize the community resources and other States' experiences before developing their own materials. He urged sharing public information materials so that the money available for child passenger safety can be spread as far as possible. This type of program cannot be successful unless everyone works together, otherwise the highway safety plans will be met with resistance from exactly the groups who should be allies. Mr. Deemer also pointed out that the accident and injury statistics will not justify your program so be prepared to justify child restraints verses drunk drivers or emergency medical services.

In addressing the nonhighway safety groups, Mr. Deemer pointed out that they should be careful to coordinate with the highway safety offices. More than money is available there—a foundation, contacts, guidance, materials. Further the State highway safety office is responsible for determining State needs and where manpower and money are directed.

Mr. Deemer discussed the highway safety funds (402 moneys) that are available as seed money to initiate community programs and how to obtain such funds. He also noted that these funds are not intended to be a constant source of funding year after year. Mr. Deemer explained

that 2 percent of each State's highway Safety funds must be spent on seat belt promotion according to a congressional mandate. In Pennsylvania that amounts to \$168,000. The State may have already put together its highway safety plan and may have no money available for that year. The planning cycle begins in October so be aware of that if you go looking for money. Work with your State to assure that the money is spent in the most effective and comprehensive way.

Pennsylvania's program involves reaching parents through the medical profession at prenatal settings, in hospitals, and at doctors offices. The medical profession and hospital association have supported this activity. There is also an interagency task force on children and highway safety established by the Governor in support of the International Year of the Child. The task force is responsible for advising the Governor about programs, legislation or regulatory action needed to improve highway safety for children. Mr. Deemer pointed out that child restraints is a beginning point for all issues concerning highway safety specialists. It's a way to develop community highway safety programs that first focus on the needs of young children and then expanded from there.

Ed Walsh, the Governor's Highway Safety Coordinator from Rhode Island suggested that other Federal money was available through health departments and public service radio and television time and should be used for promoting child passenger safety.

Carol Iacavone from the Central Massachusetts Safety Council addressed their coordination activities. The council's program has been aimed at the health professionals: pediatricians, obstetricians, nurses, and other health educators who would be in a position to reach prospective parents and parents of children under 4. The \$26,000 project was funded by the Massachusetts Auto Rating and Accident Prevention Bureau and several insurance companies. The project is mainly education oriented with reinforcement by mass media. An in-service program is offered primarily to nursing personnel in hospitals with maternity and/or pediatric units. If they want to implement the program entitled "Be A Child Saver..." Ms. Iacavone assists in setting up the educational resources and approaches.

Vivian Giles from the Virginia Association of Women Highway Safety Leaders explained their statewide child passenger safety activities which began in 1975. Mrs. Giles has support from many traditional organizations—the General Assembly, the State Transportation Department, a Regional Board of Advisors, hospitals, rescue squads and auxiliaries in addition to many diverse organizations such as the Retail Merchants Association, Highway Users Association, Automobile Dealers Association, Petroleum and Gasoline Dealers, Military wives organizations, Red Cross Chapters, Womens Clubs, Farm Bureau, Extension Homemakers, etc.

The State (Governors Highway Safety Program) provides these groups with the materials for free and they do the work reaching people from all segments of the population. You must be certain that your materials is adaptable for the different communities' needs, i.e.: rural versus urban. In

order to operate this way, Mrs. Giles noted, you need to budget for:

- A coordinator's salary.
- The cost to produce the materials.
- Travel expenses for Advisory Board members to give speeches.
- Evaluation of the program.

To get started Mrs. Giles suggested selecting a slogan, borrowing materials where possible, developing others. You should also determine if your program will be local, regional or statewide. Having the Governor launch the program offers immediate media attention.

Mrs. Giles also encouraged regional conferences within the State to encourage the participation of new workers. Display the restraints, provide the materials that will be available, have speakers who can discuss the need for child restraints (i.e., highway department, emergency room personnel). Mrs. Giles noted that these conferences are like throwing a stone out in a puddle of water. You start a wave and you never know how many people you reach.

Hazel Holly President of the Traverse Bay, Michigan Child Passenger Safety Association discussed their efforts to launch a campaign. First they ran an information booth at

the local annual health fair. Next they got the Governor to proclaim September 23-29, 1979 as Michigan's "Buckle Your Child" Safety Week. The Traverse City Mayor reinforced it with a similar local proclamation. In the meantime baseline usage rates were being collected so they could measure future progress. They developed a local price list and shopping guide, distributed public information brochures, posters, gave speeches at local service clubs. In cooperation, restaurants and motels advertised the safety week on billboards, arrangements were made at shopping malls to have restraints available for children to try and literature to distribute.

The most successful event of the week was a display contest. All local merchants who sell safety restraints were asked to participate by setting up displays showing correct usage of safe seats. A panel of judges selected a winner. The winning merchant has held a special sale on restraints throughout the week, and sold 50 car seats, five greater than his usual volume of sales.

The local AAA club sponsored a luncheon for all participants who received certificates of appreciation. The winner was given an engraved plaque to display in his store for one year until the next contest. This just points out one of the many ways of involving people in the community.

Education Programs Workshop

The Child Restraint Education Workshop, one of four concurrent workshops conducted at the National Conference on Child Passenger Protection was designed to stimulate discussion and generate new ideas in the child restraint education and distribution areas. This discussion was to be generated through informal papers presented by a number of key speakers specifically invited to appear at the workshop. The workshop was divided into five time slots with each time slot being geared to a specific topic. The five education workshop topics included:

1. Education programs: How effective are they?
2. Applying health education techniques to the child passenger protection area.
3. Educating parents and children—techniques to stimulate and promote *proper* use of child restraint devices.
4. Issues and problems in getting child safety seats to the consumer.
5. Distribution programs—the economies of size.

The moderator for this workshop session was Forrest M. Council, Deputy Director of the University of North Carolina Highway Safety Research Center (HSRC). The following narrative will present some of the most important issues, problems, and solutions raised at these individual workshop sessions.

Session 1: Child Restraint Education Programs—How Effective Are They?

The child passenger safety area represents what might be thought of as a new “field” in the highway safety and public health areas. Very little organized effort was seen until the past three to five years. Based on research which has indicated that parents are more likely to listen to health care practitioners such as pediatricians, family practice specialists, nurses, etc., and then to other highway safety experts, a major focus of educational activities has been in the

health care field. The education programs used have varied in content and, as indicated by research conducted, degree of success. The purpose of this initial session was to review existing education programs, to examine issues and findings which could be related to the success or failure of various programs, and to attempt to initiate thinking concerning how better programs could be designed for the future. The speakers invited to make principal presentations were Dr. Albert Chang, a pediatrician and Professor of Public Health at the University of California at Berkeley, and Dr. Marshall Blondy, a pediatrician actively involved in a child passenger education program in his own private practice in Detroit.

A major portion of Dr. Chang’s presentation was a review of past research involving pediatric oriented education programs aimed at increasing usage. This review included studies by Bass and Wilson (1966), Allen and Bergman (1976), Kanthor (1976), Sherz (1976), Miller and Pless (1977), and Reisinger and Williams (1978). As he indicated, these studies showed mixed results with the better designed studies showing lower levels of success. The point was raised, however, that the best designed study (Reisinger and Williams) which indicated only a slight increase in appropriate usage between experimental and control groups was indeed a one-shot study in which no reinforcement was done at a later time.

Dr. Chang then went on to present some new research findings from work he had conducted in Berkeley related to profiles of parents who protect their children versus parents who do not. When he attempted to validate a “Health Belief Model” to differentiate between users and non-users at a pre-paid health maintenance clinic, his work indicated that the model was not highly predictive. An interesting point raised was that usage for the total group was slightly over 50 percent, a high level of usage for any group. It was pointed out that this group had been involved in an existing education program for up to three years. However, when he further questioned these subjects about the sources of their information concerning child safety, a very low percentage indicated they had received information from their M.D.’s, hospital wards or medical clinics. Forty percent also cited a need for their doctor to discuss this topic more with them.

Dr. Blondy went on to reinforce the point made by Dr.

Chang that a study of the literature indicates that this is a very frustrating and somewhat unsuccessful area for those interested in preventive medicine. He did note, however, that the best results (highest compliance) were associated with face-to-face meetings with an authority figure and the presence of an in-place followup mechanism to insure reinforcement.

His own personal procedure involved asking the children whether or not they wore their seat belt and, upon receiving an affirmative answer, ceremoniously presenting them with the "Dr. Blondy, I wore my seat belt rubber glove award," a form of positive reinforcement which seemed to be very important to the children. He went on to positively reinforce the action of the parents in these cases.

For the parents who were not using child restraints, he instituted a procedure in which a form letter from him was mailed to them with the central theme being, "It really bothers me as your physician that you allow your children to ride unprotected in the car." In most cases he added a personal note at the bottom of the letter which essentially said, "Please care as much about your child's safety as I do." He indicated to the workshop audience that such an approach had gotten very positive results from some of the parents and indeed appeared to increase usage in some cases where the parents were originally showing hardnosed resistance to the idea. In terms of success, he indicated that, at least on the basis of somewhat unreliable questionnaire data, his program was increasing usage. Dr. Blondy then presented suggestions concerning future programs, including the need for a brief training program designed and mailed to all newborn nurseries across the nation to be developed by NHTSA or some central hospital organization and the use of TV commercials aimed specifically at the 4 to 14 year old group, the group of a population who most often knows the words to commercials.

In a discussion following these two papers, results from Dr. Arnold Constad of New Jersey and a physician from another area indicated they had reached levels of compliance as high as 80-90 percent; one in an urban pediatric setting, the other in a prepaid rural plan. In both cases, the physician stated that it required a long-term, continually reinforced program in which the parent was made to realize that the doctor did care about the child's safety.

Section 2: *Applying Health Education Techniques to Child Passenger Protection*

The second session was aimed at expanding the current knowledge concerning education programs in the child safety area by examining work that had been done in other fields. As stated earlier, the field of child passenger safety is basically a new public health field and the education programs used thus far have met with limited to moderate success. Thus, it appears time to make use of proven techniques from other fields, particularly health fields, and to expand other existing education programs to include child restraint information. The key presenters in this section were Dr. David Sleet of the San Diego State University Department of Health Sciences, an expert in modeling and simulation in other health care fields and Mr. Doug Wolf, Traffic Safety

Coordinator of the State of Wyoming, who had developed, pilot tested, and is currently implementing a school-based education program which includes an occupant restraint section.

Dr. Sleet presented a paper entitled, "Applying Behavioral Science to the Prevention of Injury to Children in Automobiles" prepared by he and Dr. Ralph Grawunder. In this paper he presented factors which have proven to be very important in getting health educational information used by parents in other fields of health and safety. Key points which were most applicable to those in the child safety area included:

1. The need for "Credibility of Sources" for both parents and the health care professionals themselves (i.e., the need for the M.D. to present the information to the parent and for national organizations such as the AMA and American Academy of Pediatrics to go on record in support of child restraints.)
2. The concept of "Primacy and Recency" in which the most important factors related to behavior are the first and last thing a person heard concerning the topic. This was tied in to the need to first get the information into prenatal type settings and second, to insure that the last thing an infant's parents hear when leaving the maternity floor and getting into the car concerns safe travel.
3. The concept of "Identification, Modeling and Simulation" where people identify with both peer groups and status leaders. Here he mentioned the point that the best teachers of youngest children and parents may indeed be older brothers and sisters and that pediatricians could work with them to get the message home.
4. The concept of "Sacrifice or Justification of Effort" in which one values things the most which one has to sacrifice some to get (i.e., don't give away child restraints, but require a "payment" of some type).
5. The concept of "Repetition and Reinforcement"—the necessity of continually reinforcing the need for child safety restraints. "One-shot programs won't work."
6. Finally, the area of "Need Satisfaction" in which the use of information presented is often based on the fact that the actual effort made satisfies some internal need. Since there is not internal "need" to be restrained, we must sell child restraint devices on the needs related to affection, caring, love, etc.

Mr. Wolf described a Wyoming school-based program primarily aimed at children in K-6 grade. The overall program contains six different sections, one of which was the auto passenger safety module. He discussed the contents of the program and then moved into what he considered to be the keys to the successful development and implementation of such a school-based program. These included first, a pilot workshop in which a resource guide previously developed in the State of Maryland was used in 13 school districts across the State to generate inputs from teachers. In this pilot effort the key to the success of generating inputs was the fact that Mr. Wolf went directly into the classroom and taught with the teachers, working directly with both students and those who would be teaching the materials. Through both verbal inputs and survey forms he received worthwhile criticisms. Based on this initial pilot testing he redesigned the materials and drafted a potential guide. The second important step came when he invited a core group of volunteer teachers to come into the central office for a 3½ day session to develop a new curriculum. Using the rough draft as a basis for discussion, they input their own ideas and reservations concerning what should be taught and how it should best be presented by the teachers to the students. In later implementation, the fact that the guide was designed by teachers appeared to be an important selling point for other teachers.

In summary, keys to success included: (1) a mechanism for insuring parental involvement in the teaching process; (2) a guide designed by the potential users; (3) a guide designed such that the teachers could use it as they wished, either as a stand-alone section of classroom training or as an integral part of other sections of classroom activities; (4) the necessity for personal contact between the program coordinator and the individual teachers; and (5) the need to "sell" the program to the teachers. Here the approach used was "You, the individual teacher, decide what is appropriate for use in your classroom and then use it." He felt that by giving them this choice in a face-to-face format, his guide was being used more than if it had simply been mailed out from the central headquarters.

Section 3: *Educating Parents and Children to Stimulate Proper Use of Child Passenger Safety Systems*

While the primary focus of the entire National Conference and that of the education workshop was the most serious problem faced by child safety advocates, the problem of *nonuse* of child safety devices, a second very important problem exists which affects even those few parents who purchase restraints—the problem of misuse or improper use. Data from several observation studies has indicated that as many as three of four parents who have purchased restraints are not getting the full benefit that the restraint would provide because they do not use the device as specified by the manufacturers.

To explore this problem of misuse, three child safety advocates presented material from their individual backgrounds. Charlane Bachmeier, Chairman of the Child Restraint Committee for ACTS, is a registered nurse who

has been personally involved in a number of education programs and has had a great deal of experience in training proper usage techniques through a one-to-one, face-to-face basis with parents. Dr. Ed Christopherson of the University of Kansas Medical Center, Department of Pediatrics, has done some of the pioneering work in the area of child behavior in automobiles as a function of child restraints device use and the use of this information as a selling point for child safety seats. Carol Fast is the Chairman of the National School Bus Safety Committee of ACTS and is currently involved in a number of programs in New York State aimed at reinforcing child restraint use for younger children through restraint use on school transportation vehicles.

In her discussion of education techniques to help insure more proper usage of restraints, Ms. Bachmeier's key point was the need for the instructor to "get down on the floor with the parent" and put the child in the restraint. As she said, "It's fine for the pediatrician, public health nurse, or educator to say, "Get the car seat and put the child in the harness," but there's a lot more to it than that." She insisted that educators must tell parents that it is not easy to use child restraints properly, that you have to know the details of how to buckle the devices and adjust the straps, and finally, in order to do this, the teachers must know the details of restraint use and adjustment for particular restraints that they are demonstrating—a facet of teacher education that quite often is not emphasized in child restraint workshops and not carried out in either loaner programs or other education programs. It is interesting to note that, as was pointed out later by Ms. Andrea Jacobsen, a lawyer from Pennsylvania, one of the key issues in protecting a loaner group against liability is the need to correctly explain in detail the proper workings of the child safety restraint that is being loaned out and thus the need to ensure that the trainers know the details of how to properly use the seat.

Problems cited by Ms. Bachmeier as those seen most often include:

1. The use of too much extra padding, particularly in infant carriers. For example, a baby wrapped in a number of blankets and placed in a child restraint will not allow proper adjustment of the straps. The key here is to place the baby in the restraint, adjust the straps, and then cover the baby and the straps with the blankets as needed.
2. Infant carriers facing forward. This problem is particularly notable when infants are placed in the back seat and the mother or father who is driving wishes to check them using the rear-view mirror.
3. The use of "armrests" on the child restraint in place of the five-point harness. While this problem may be addressed in the new Standard 213-80, it will still remain a problem for those seats now on the market where an armrest is present.

4. The well documented nonuse or misuse of tether straps in seats that require such straps to be safe.

Perhaps the most important key mentioned by Ms. Bachmeier to potential trainers and teachers who must be familiar with various devices is the availability of the ACTS notebook of instructions, a document which is periodically updated and which contains detailed instructions for each of the well-designed child restraints that are currently on the market.

Dr. Ed Christopherson, in continuing the discussion of how to improve the level of proper use among parents who have purchased child restraints, focused his talk around four points which, based on research in other fields, appear to be keys which determine whether or not a desired response is obtained from a person receiving educational information. These keys include, first, "stimulus control"—the internal or external reminders which are automatically provided each time a certain behavior is needed. He noted that such reminders are not present in the child restraint area and suggested that perhaps a simple sticker on the dashboards to remind the driver to buckle their child up each time they were in the car might be of some use. The second key is that of "immediate consequences," immediate positive feedback from putting the desired behavior into practice. As he noted, there is really no immediate feedback from a safety standpoint since a crash is a very low probability event. He noted that there was, however, some immediate consequences from a behavioral standpoint and that work in which he had been involved indicated that children behave much better when in a child restraint than when they were not. It is these behaviorally related consequences or benefits to the driver that we need to be emphasizing when walking to parents about using child safety seats. The third key related to "response cost," where a low cost is needed to assure the proper response. As he noted, in the child restraint area, the response cost is not low. The seats are difficult to use, particularly when more than one child is in a family. While the manufacturers are making advances in this direction, it is important that consumers continue to demand such changes to make the devices more convenient for use. (It is noted that NHTSA will soon be involved in a study concerning the question of comfort and convenience as an outgrowth of some preliminary work done in the State of Michigan.) The fourth and final key is "motivation," getting parents motivated to use the seats. As he noted, this is the only key that education programs as now carried out can affect. They do not affect any of the first three. He suggested that we might enhance both our motivational approach and our behavioral-related approaches by using recently developed information contained in a North Carolina study. This preliminary work, reported by William Hall of the University of North Carolina HSRC, indicated that North Carolina records identify between 100 and 200 accidents that occur each year in which children were either distracting the driver, grabbing the steering wheel, or involved in some other behavior which directly led to a crash. The total yearly societal cost of these crashes was estimated at over a million dollars, a very high cost to pay for not hav-

ing a child in a child safety device, particularly when it is known that this benefit would only be part of the total restraint related benefits which would include the injuries and deaths that could be prevented by use of such devices.

Carol Fast's opening point was that while it was very important for us to be keying efforts in this National Conference to children in child restraint devices and infant carriers, there was not enough information being provided concerning the older child, the child too old to use the child restraint device but who is still very much in need of a restraint system. She noted that we daily reinforce the feeling that seat belts are not important when we transport 22 million children in schoolbuses where belts are not available for use and are not mentioned in any kind of schoolbus training. She then went on to describe the problems and issues which have arisen in a pilot project in one school district in New York State where safety belts are being placed on buses. She noted in particular that while the National School Transportation Association, an association composed primarily of schoolbus contractors, has fought the inclusion of belts as a requirement under FMVSS 222, the total cost of including belts in such buses is less than two percent of the cost of the bus, amounting to approximately \$390 per bus (given that proper padding is provided on the back of the seats). She went on to define key issues in any kind group transportation of children. These issues included:

1. The urgent need to train the students in proper use of belts if belts are put on such vehicles, since they are not receiving this training anywhere else.
2. The need for safety advocates to become more closely involved in the transportation of local youth clubs, particularly the Girl Scouts, Boy Scouts, and other child groups. Of particular interest was the point raised that whereas the National Girl Scout group does not have a standard requiring seat belts, the National Boy Scout group has a national standard requiring both the availability and use of seat belts at all times when Boy Scouts are being transported, a requirement that is quite often not met by local chapters.

Her final point was one which has been raised by other speakers, but needs to be repeated: "Don't expect change overnight. While it will be very slow in coming, keep pushing for it!"

Section 4: Getting the Child Safety Seats to the Consumer

One facet of child passenger safety which is perceived as a major problem by consumer groups working in the area is the apparent lack of a concerned response on the part of many automobile dealers—the group of retailers who safety advocates view as potentially a very key group for information dissemination, the selling of restraints to the public, and the important periphery problems associated with installation of tether straps, restraints, etc. This problem was

raised in the first day's general session in a question and answer period involving child restraint manufacturers. Here, in response to a question from the audience, a Ford Motor Company representative indicated that the demand for seats was not large enough to warrant the large expenditure of funds which would be necessary to train all of their salesmen and local representatives concerning all of the issues involved with child safety seats. He went on to note that if consumer groups would raise (create) demand, Ford and other auto companies would certainly meet it with the necessary supply. (It is noted that this is marketing strategy which is very dissimilar to the Ford strategy used for any of their other products.) To stimulate further discussion concerning the area of working with groups who would sell directly to the consumer, three people were invited to make short presentations—Greg Sutliff, an automobile dealer from Pennsylvania, who is also on the Executive Board of the National Auto Dealers Association; Mr. Ray Cohen, a past auto dealer with the Independent Dealers Committee, who is currently involved in child restraint/adult restraint programs with a number of dealers; and Ms. Pat Bartoshesky, a charter member of the Massachusetts ACTS Group and a State Health Department Program Specialist on child auto safety who works daily with automobile dealers and other retailers of safety seats.

In his discussion, Mr. Sutliff presented to the workshop audience the structure of his dealership and many of the reasons that automobile dealers are not currently involved in "pushing" child safety restraints. He noted that while he very strongly supports child restraints, he had encountered several problems from a sales point of view. In his own dealership they had tried using the restraints as a discount on auto sales to parents of young children. There was very little response to this procedure. They found better response to the idea of giving restraints away as door prizes in that when called, the winners always came in to pick their prizes up.

He explained that the reason most salesmen and most dealers are not interested in child safety is that their basic function is to sell cars, and the prevailing philosophy is to do nothing which might divert people's attention away from the selling of the car. He suggested that perhaps the better place for child safety seats was with the parts department, but that problem exists there in that the parts department people are not salesmen and have little time to learn the details of the restraints. Obviously, for the automobile dealerships to become an integral part of the distribution system, they would need to be able to provide the education necessary to both convince parents to buy such a device and to use the device properly. When asked by audience members who they should get in touch with in an auto dealership if they were asking for help in their own programs (i.e., the donation of seats and/or money to help them fund their own work), Mr. Sutliff suggested that, because GM had been involved in a large child restraint giveaway program to their dealers who did a volume business in parts, the consumer groups should contact large GM dealers in their immediate areas, particularly dealers who do a large parts business.

Mr. Cohen, in presenting his ideas concerning where

automobile dealers fit into the child safety restraint area, was somewhat more positive toward their potential role. He supported Mr. Sutliff's contention that the dealers could not make money on the seats, and that they would not attempt to sell them as a profit-making accessory. However, he did present an alternative. His group's thesis is that child restraints should be used as an "image promotion device for the dealership." This would take them out of concept of profit and into the image of public service, an image which many auto dealers are already very much involved in. He says that they could be a very big part of the "after sell" component of automobile sales. They should be put in displays on the sales floor, not in the parts department, and the displays could be furnished by the automobile manufacturers who provide the seats to the dealers. He further suggested that if approached properly, the auto dealers would become involved in loaner programs in cooperation with hospitals or other community groups, could provide child safety devices as gifts to parents of small children who purchase cars, or provide free installation for the restraints the parents already own. In discussing the issue of salesmen not being involved with child safety devices, he noted that salesmen are just like the majority of the general public in that they are not using child safety devices (or seat belts) and do not have adequate information concerning such devices. He suggested that one way of insuring their participation was by organizing some type of cash incentive awards to the salesman who sells the most child safety seats in a given period of time. Such a cash incentive program funded by the dealer would not only move devices better but would insure that these salesmen educate themselves concerning the restraints. His final and perhaps most important point for consumer groups was that if the consumer group wishes to insure the cooperation of an automobile dealer, they must sell their program just like the automobile dealer must sell cars. An initial "no" answer should not be accepted any more than a salesmen accepts an initial "no" answer about the purchase of a car. The group must followup (in a nice way) with the dealer and continue to provide them with information related to their needs and the potential program in an attempt to win the dealer's support.

In relating her experiences in working with retailers including automobile dealers, Pat Bartoshesky further supported the fact that a problem exists. Whereas education programs are being provided by health care professionals and/or other safety or consumer groups in which we educate parents and provide them with a pamphlet concerning which child restraints they should use, the parents then go into a store and an uneducated salesman says, "You don't really want that." The parent is then left in a confused and uncertain state, and part of the educational value is lost. Ms. Bartoshesky indicated that as recent as the past 2 or 3 years, availability of seats among retailers in large metropolitan areas in Massachusetts was very limited. While increasing, there is still a tremendous amount of work that needs to be done both there and in other States in increasing the number of seats on the market.

In her specific work with automobile dealers, she noted that the one approach that had been the most successful was to work with the local Chamber of Commerce, in particular,

the car dealer subcommittee of the local Chamber of Commerce. This is a key group whose support can be very important in working with other dealers in the area.

The points which she felt to be important in working with retailers are:

1. The advocate must restate and reinforce their initial message by being there frequently, to continue to provide the reinforcement to the retailer. Just like in other education areas, one-shot programs will not work here.
2. The safety advocate must explain to the retailers that the consumer group will advertise the child restraints for them, that the group will provide information to the consumers about where such seats are available *if* the retailers stock the proper restraints in their stores. This will necessitate the development of a shopper's guide of some type for a local area, a tool that is currently used with some success in a number of localities.
3. Finally, it may well be necessary for the advocate groups to provide training programs for retailers to insure that they have the most current information available about the product they are trying to sell.

Section 5: Distribution Programs—The Economics of Size

The many child restraint loaner or rental programs now in existence are beginning to meet the need for low cost devices. Most of these programs, however, are small involving 50 to 100 seats. Currently, some of these existing programs are beginning to expand and, in addition, other groups or agencies are beginning to design new larger scale programs. While these smaller programs are providing a great deal of information concerning implementation strategies and how to overcome problems that exist, there are many new areas of concern more specific to large programs. To discuss these economies of size in detail and to provide a summary of the perceived major problems in the child restraint loaner program liability area, four child safety advocates presented material to the workshop audience. Margaret Lang is the program developer and coordinator for the Affiliated Hospital Center in Boston, the center that houses one of the largest hospital-based infant restraint programs in the Nation. Dr. Mary Meland is a practicing pediatrician with a pre-paid group health plan in Minnesota and runs what appears to be the largest infant carrier program now in operator. Jana Hletko is the Auto Safety Coordinator for the Borgess Pediatric Preventive Medicine Program and President of the local chapter of ACTS in Kalamazoo, Michigan. Her program is a very large child safety seat program which also includes the rental of toddler seats, making it a very unique program. Finally, Andrea Jacobsen, a lawyer in the State of Pennsylvania working with a State appointed Task Force on Child Safety, has conducted a great amount of detailed research into the area of liability and insurance problems for loaner programs.

In discussing her program, Margaret Lang detailed what had happened in both the initial 4 month pilot planning process and the later full-scale program involving hospitals in the Boston area. She suggested that the keys to making a large hospital-based program work include, first, making sure that the nurses understand the importance of the problem of child safety and actually become part of the program. While this was a roadblock initially in the Boston program, the single step which overcame the initial reluctance on the part of the nurses was the fact that the program received a large amount of publicity on the local TV stations and this publicity generated phone calls to nurses by consumers who wished more information. The nurses were forced to become involved and, in doing so, became interested in the area. Second, the director of nursing, convinced of the importance of the program, instituted a policy change in the hospital *requiring* the nurses to educate every maternity patient concerning child safety and to document this education in the patient's medical record. (Interestingly, this meant that this education effort became part of the nurse's regular job duties, a distinction which overcame some of the questions of extra liability.) Third, to overcome the problem of rapid staff turnover, self-learning packets are being developed to allow the nurses to help train themselves. Fourth, any group that is involved in such a program should realize that they will be called on to work with groups outside of their own area. In Boston, a great deal of demand was generated in other parts of Massachusetts, and consumers were saying they would drive to Boston to rent such a seat. Because seats were not available to cover large parts of the State, the coordinators of the Boston program worked with other local groups in establishing loaner programs in these outlying areas. Finally, and perhaps most important (particularly as related to having nurses and other hospital personnel become part of the program), was the formation of an in-house Task Force which involved key people at all levels of hospital staff. This allowed these people to air their problems and to have their inputs included in planning the program. Perhaps the key to this approach is that it brings into the program at an early stage, those persons who could be potential roadblocks to program success. By having these people involved in the planning early and allowing them to get their problems aired in front of the group, the remainder of the program appeared to go much smoother.

Ms. Hletko indicated that the auto safety facet of their program was part of an overall pediatric preventive medicine program in Borgess Hospital. The auto safety part included a community education component in which information is presented to any community group interested, and public information material is provided to local outlets such as TV stations and radios, a school program which involves going into the local schools and providing safety education to students and teachers, and finally, a postnatal education program which is the in-hospital component. The loaner program being discussed is felt to be an integral part of this overall education program. The program currently involves approximately 1,000 seats.

The initial key to making this program a success was the early support of the Board of Trustees of the hospital. It appeared that the main reason for such support was the fact

that the Chief of Pediatrics (Ms. Hletko's husband) took the program to them. This indicates that in order to get such cooperation, it may be indeed necessary to identify and convince a person in a position of power and to have that person "muscle" the program through. Just as with Ms. Lang's program, a committee was established within the hospital to air problems and to provide potential solutions.

The only problem encountered so far with this unique child seat rental program is the expected one of nonreturns. In this program the persons are able to rent a toddler seat for any period of time from one day to three years. No figures currently exist on the size of the nonreturn problem since the program has only been in operation 1½ years. The point made by Ms. Hletko was that first, the nonreturn problem may not be as great as what was expected, and second, that the hospital accepts this loss as part of their overall operating expenses. Because many people in any hospital fail to pay their medical bills, hospitals are accustomed to working with large losses in providing the services that are necessary, and in the Borgess case, they were convinced that this is a necessary service. Based on her experience with the program Ms. Hletko's most important points to the audience were that:

1. She was convinced that an infant rental program should have a toddler seat component whether the component is as large scale as hers or whether it is simply a try-before-you-buy program or direct referral to local retailers who sell toddler seats. It is imperative that the consumer be shown that the loaner program is not just interested in the infant but is interested in protecting the child up to the point that he or she can move up to adult belts.
2. Just as stated by earlier speakers, there is a definite need for explicit and detailed demonstration of the proper use of the devices in any loaner program, a facet that she feels is often overlooked.

Dr. Meland indicated that, unlike other people, she is working with a somewhat captive audience of 140 thousand members who have paid in advance for medical service and who return to the same series of clinics a number of times each year. Her program currently involves 1,700 GM infant seats. Of particular interest was the fact that while no detailed figures exist, it appears that they may have lost approximately 20 percent of their seats. As she indicated, this is not considered a large loss since she also feels that it may well mean that people are continuing to use the infant carriers or are giving them to friends for their use. Thus, children are being protected.

Of particular interest to the group was the question of the "clean seat" returns. Most loaner programs face the problem of having seats returned in less than perfect condition. She indicated that way this problem is handled is simply to have the person clean the seat when they return it or forfeit their \$10 deposit. She said that if you tell a parent

you are not going to accept the seat back unless it is clean and then provide them with cleaning materials and a place to clean the seat, most parents are perfectly willing to take 5 or 10 minutes it requires to clean the seat. Finally, she indicated that one of the keys to the success of their program was that they have tried to eliminate all extra paperwork. They have integrated this as part of their existing record-keeping system, using existing personnel, insurance coverage, etc.

The final speaker of the day, Andrea Jacobsen, briefed the audience on material related to the question of loaner program liability and insurance coverage. Her key point was that rumors of lawsuits rather than actual lawsuits predominate in this area. Her inquiries and those by other people attending the National Conference had indicated that while there are rumors of numerous lawsuits, no one has been able to specifically pin down any suits against either a manufacturer or a loaner program.

She went on to say that there is no way to avoid potential liability and that it should be noted that the threat of liability serves a good purpose in that it should force people to be very careful about the training and the restraints they provide. She indicated that the only way to avoid liability was not to get involved, but once you are involved in any kind of educational/loaner program you must do it right. Keys to minimizing the possibility of future liability include:

1. Choose the restraint to be used carefully. For example, make sure it would meet the new revised FMVSS 213-80.
2. Thoroughly inspect the seat each time it is returned and each time before it is rented out.
3. Inquire about a crash. If a seat has been involved in a crash, retire it from use.
4. Provide and document good instruction concerning the details of proper use and *document* the renter's understanding of these instructions.

Finally on the issue of attempted or threatened premium increases by insurance companies covering civic groups, she indicated that the loaner program could put pressure on the companies by threatening to cancel their entire liability policy and move it to a new company, but should also consider contacting the State Insurance Department for help in this regard since the Insurance Department is the central agency concerned with insurance rates of all types. Finally, the group should contact the restraint manufacturer to have their name placed on the company's product liability policy rider.

In summary, the Education Workshop sessions perhaps raised as many issues as solutions. However, they did serve to generate a great deal of focused discussion, identify some potential solutions, and hopefully, spur innovative thinking and planning in an area where potential child health payoff is unbounded.

Communications Workshop

The Communications Workshop, one of four concurrent workshops conducted at the National Conference on Child Passenger Protection was designed to address ways that the public media can influence child passenger safety. This discussion was to be generated by informal presentations by a number of speakers specifically invited to appear at the workshop.

The workshop was divided into five time slots with each time slot being geared to a specific topic. The five communication workshop topics included:

1. What Television Teaches Children About Car Crashes and Passenger Safety.
2. Promoting Child Passenger Safety Through the Media.
3. Selling Passenger Safety to America.
4. The Decision to Buckle Up.
5. Using Public Information to Counteract Myths.

The moderator for this workshop was E. Christy Hughes, Coordinator, Occupant Restraint Programs, National Safety Council. The following narrative will present some of the most important issues, problems, and solutions raised at these individual workshop sessions:

Session 1: What Television Teaches Children About Car Crashes and Passenger Safety

One reason mass media efforts have not been effective in promoting passenger safety is that it is difficult for 30 seconds of public service time to counteract what is broadcast during prime time television programming. This session looked at how television was influencing children regarding safe transportation and how to design public information programs so that they make full use of what is seen in the broadcast industry.

Dr. Bradley Greenberg, Professor of Communications, Michigan State University, described a contract that will be conducted for NHTSA to systematically examine how driving is portrayed on commercial television. It will be a 4 year

project. Dr. Greenberg showed sequences from "Laverne & Shirley," "Vegas," and "Quincy," to point out how many shows highlight fast driving as a main form of consciousness. None of the characters, including policemen, were visibly shown wearing seat belts.

Dr. Greenberg showed a variety of techniques that were used to avoid fatigue while driving. In addition he pointed out that hazardous driving is often shown intentionally, as cars are often used as deadly weapons. The analysis in this contract will look at the drivers, passengers, use of restraints, type of vehicles drive, driving behaviors (i.e., speed, screeching starts and stops), other hazardous driving, drunk driving, and what happens to the occupants. He will also look at whether the driving takes place in a humorous or serious context. Dr. Greenberg thinks that often these scenes are used to relax the viewer's defenses in terms of making a scene more acceptable for its humorous rather than substantive aspects.

Dr. Greenberg pointed out how social learning occurs. If you teach somebody something often enough they are going to learn parts of it, especially if you have visual, exciting, dramatic, heroic examples that occur frequently. The reasonable expectation is that some part of that message will be learned by the viewer. According to Dr. Greenberg there are two main reasons for chase scenes: excitement and to fill a vacuum that will otherwise be left by an incomplete script. Chasing people with cars is vivid and exciting and relatively cheap compared to a scene with actors and actresses in it. These chase scenes also serve as a transition in time.

Molly Pauker, from Action for Children's Television, explained ACT's concern with the health and safety of children. They have determined that preschool children watch 33 hours of television a week. They are concerned with the intentional message that commercials aim at children (i.e.: Eat Milky Way). Ms. Pauker says that auto safety deals with the incidental message that says—"You can drive your car 80 miles an hour in a chase and you don't have to buckle up and you'll probably emerge unscratched. You may bounce off some cars and there may be property damage but you don't need to be too careful."

Broadcasters must be made to realize this and do something to promote positive messages about health and

safety. She noted that there is a meaningful relationship between the frequency of the message and the frequency of the countermessage. Three hundred sixty nutrition spots cannot counter the influence of 10,000 spots encouraging children to eat Milky Ways. She suggested that community groups work with broadcasters to get changes made rather than working through the government.

Session 2: Promoting Passenger Safety Through the Media

This session addressed what can be done to get the kind of messages on television that show positive passenger safety. It was led by Mary Beth Berkoff from the Rehabilitation Institute of Chicago. Ms. Berkoff commented that the Rehabilitation Institute which has the largest spinal cord treatment facility in the country, began their involvement in child passenger safety several years ago when it was determined that an extraordinary number of their teenage patients were being admitted as a result of motor vehicle accidents. Ms. Berkoff described a public service spot that was developed by the Rehabilitation Institute called "Belt Someone." "If You Want to Feel Really Good, Belt Someone." It was fashioned after ads that have been so effective. Some concern was expressed about the "Belt Someone" approach. A similar campaign called Belt Your Kid drew massive complaints from women's organizations and child abuse and prevention counsels. It caught a lot of people's attention at the same time, however. There has been so much more information about child abuse lately that this particular community group was castigated for using the "Belt Me" motto even though it was obvious that there was a big seat belt. Ms. Berkoff commented that the "Belt Someone" commercials were taking it from the other side talking about the child who was going to belt their grandmother, belt their sister. It was concluded that we must be careful in our approach and not show children that same sort of behavior that we are trying to have other people eliminate.

Linda Kahn, with Prime Time Television explained that the thrust of this national nonprofit educational organization is to do something constructive with television programs, particularly programs that are broadcast in the evening and after school since these are available to virtually every child in every house in the country. They reach about 700,000 teachers every month, in addition to librarians, some parents, and media specialists. The other half of what Prime Time TV does is to develop curricula materials that link all kinds of shows, commercials, dramatic adventure series, and newscasts to broad subject areas. They provide teachers with lesson ideas, activities, background information, and readings for the students on any number of subjects. The whole idea is to tell people what specials are on television, to give them a synopsis of the show, give them activities, provide teaching guides with discussion topics and resources so that they will be able to incorporate a discussion of some of the finer information that is broadcast on TV, and integrate it into their classroom activities.

There is no doubt that television has a profound impact on the actions, attitudes, and behavior of children. Ms. Kahn pointed out that you can go into any school today and

the children can recite the Miranda warning and the McDonald's jingle. Children copy what they see on TV and use television characters as role models. In many respects they measure their own lives against the television portrayal.

How can we get kids at home and at school to constructively use the information on television programs? One method is through a television viewing log which was developed by Prime Time School TV. Ms. Kahn suggested that the conference attendees give the log to a parent group, an activist group or community group, who can do the monitoring and then follow-up so that something constructive is done with the information. In filling out the log you want to ask yourself about the ways you can assure passenger safety. You might fill in the first column with good passenger safety tips or ideas. Are seat belts used? Are they driving at the speed limit? Are they obeying traffic signals? You might also look at violations: Was there any reckless driving? Any drunk driving? Did they use seat belts? In the next column of the viewing log you would insert the programs, newscasts, or commercials observed. It is critical that we start to focus our television viewing. This way a student is watching two or three shows a week and watching for something in particular, i.e., the things that you had listed in your first column as good passenger safety tips. Afterwards you would discuss with the group what your week of television monitoring identified. You can discuss what the point of all the chase scenes is, why they are on, and what laws have been broken.

A good technique is to watch TV with no sound. Just consider the impact of the program particularly those chase scenes with no sound. Whose point of view do you see things from? What is the pacing of the program? How do you feel when you are watching it? What are the visual images and what impact do they have on you? And then immediately following that listen to the music. It heightens the excitement of the scene. The screeching brakes and the skidding cars are very important audiovisual techniques that are used to create the desired impact. You should also consider what the car is a symbol of. Often it is wealth or power. The idea of the log is to focus the students, the home viewer, or the community action group to be more aware of what is on TV and try to improve it.

Finally, in looking at commercials what you see again is the idea of wealth and power associated with cars. What is going to sell cars. Safe driving is never even mentioned. It is a rare commercial where people remember to fasten their seat belts. And what about the kinds of toys that are advertised? The model cars—all those hot wheels that zoom up the drag strips. Through discussion of what is on TV we can get the students to be more aware of highway safety.

Hedda Sharapin from "Mr. Roger's Neighborhood" talked about how the Mr. Roger's show deals with child passenger safety. Mr. Rogers reaches an audience of approximately 7 million children between the ages of 3 and 8 years old. The basic philosophy of the show is to help children grow in a healthy way. Young children are very dependent on the adults in their lives and the program is built on a one-on-one type of situation with a low key and calming approach. It uses a great deal of silence that allows the child a chance to reflect on what has been said.

Every year and a half Mr. Rogers repeats a segment on child passenger safety. They feel that the basis for any safety education lies in the persons caring enough about him or herself that they will want to take care of themselves. It is that kind of message "you are special" that they try to offer to children.

Nancy Forbord, with the Washington Association for Television and Children (WATCH) has been working for about 4 years in Washington to try to improve children's television and at the same time try and make broadcasters in the local area more aware of the impact that television has on children. The local community can be effective by working with the local broadcasters to make them more responsive to what children are seeing on TV. WATCH always reminds people that the airwaves are public airwaves. They belong to the community and it is up to the community to be sure that broadcasters live up to their responsibility. Ms. Forbord commented that she did not think it was a question of bad intent, but more of negligence. There are so many things to think about in broadcasting that safety just doesn't come to mind very often. She suggested a letterwriting campaign as a good way to reach the broadcasters.

She also reiterated the statistic that preschoolers are watching from 33 to 53 hours of television every week. And that none of what they see can be countered by what they are taught in school because very few preschoolers attend school. They refer to television as the anonymous teacher because of the fact that children do learn so much from it. Children see a lot of things on television that were not designed for them. They see an awful lot of old reruns. If you take a look at some of these program, you would be shocked to see the people who are run over in old cartoons and get up and nothing happens to them. The driving habits of the people are just unbelievable. None of us would ever drive that way and get away with it.

Ms. Forbord mentioned that she was shocked to see the driving behavior in a show recently using Muppet-like characters. It was trying to promote good nutrition with children—that they should brush their teeth after eating sweets. The sketch on brushing was done with three muppets driving a van along a highway while brushing their teeth. The driver was hanging out of the window with his toothbrush not paying any attention at all to what was on the road ahead of him. The show was one designed specifically for children. This is not what we want the kids to see. If you see a show like that call the station or write to them and tell them how important it is that this is corrected before they show it again. I think they have to be made aware that you are watching them. In the long run its just as easy for broadcasters and producers to have people put their seat belts on when they get in the car as it is to have them get in and zip off.

There are basically two goals that you should be after in trying to increase safety on television for children. One is to raise the awareness of the people who are putting on the shows. The second is to make more information available to the public. There are a couple of ways that you can do that. Public service announcements should tell people where they can get more information. Local broadcasters have an obligation to the public to put on so many public service an-

nouncements. It's often just a matter of who comes in and who gets that time. So make it a point to go talk to the local broadcasters. Decide what kind of message you want to get across, tape it, and go to see your local broadcaster.

Another way that you can use the media is to go on talk shows. The local shows are always looking for interesting consumer topics and this is one that would appeal to many people. You can go on for 5 or 10 minutes and get a tremendous amount of information on the air very quickly and let a lot of people know that you exist. At the same time you let the broadcasters know what you are thinking. Another thing you can do is contact all the local children's shows and see if they have somebody who can talk about auto safety. Patrol programs also should include information on child passenger safety. Ms. Forbord would like to see a national ad campaign similar to the Buckle Up For Safety song that went on the air several years ago.

Ms. Pauker commented that what has been discussed in this session are basically three strategies: (1) on changing the programming; (2) on getting the right message in the program content; and (3) about raising children's consciousness about auto safety.

Ms. Pauker commented that she had reservations about the use of public service spots and reiterated her comment that the infrequency with which public service spots are aired make it difficult to compete with that underlying message that comes across in the programming. She also mentioned an experience where a network refused to air certain public spots because they were afraid to offend an advertiser. She mentioned that quite frequently the networks and local stations rely on public service spots made by the Advertising Council which is sponsored by broadcasting industry and advertisers. Often citizen groups and non-profit organizations are excluded when they try to get a spot on the air. Often public service spots that are meaningful to children are aired during the graveyard hours and public service spots, for instance about joining the army, are aired during children's programming.

It must be remembered that public service time is competing with \$100,000, 30 second spots during prime time programming. And it is the hardest thing to do to get the broadcasters to use the most valuable time which is not only valuable to them, but also valuable to the people who want to get the message across.

Ms. Pauker did comment that the networks are doing better at getting public service announcements on Saturday mornings. One reason for this is that regulatory agencies are putting pressure on broadcasters and advertisers. She also suggested visiting local Congressman because of their oversight responsibility with the Federal Communications Commission. While the FCC does not mandate what goes on the air, there is a lot of subtle pressure that they wield. It is a powerful tool that citizens have.

One more statistic that Ms. Pauker offered is that by the time a child graduates from high school the average American child would have spent 11,000 hours in the classroom and 15,000 hours in front of the television. Those 15,000 hours are very significant ones.

Dr. Robert Sanders, a pediatrician from Tennessee, noted that there was a real opportunity to utilize the news

media. He urged people not to be bashful but to go on TV and take advantage of the opportunity to reach many people at one time. He also suggested that you urge the editorial staffs of the radio or television broadcasting station to take editorial stands supporting child passenger safety. Another approach is to ask the news media to comment when reporting on an auto accident involving a child or an adult, whether or not that child was properly packaged in a child restraint, or whether or not they were in a seat belt. It can have a marvelous educational impact.

Mike Ellis from the Tennessee Governor's Highway Safety Program believes the public sector expects too much from public service announcements. It is unrealistic to go in with a \$5,000 or \$6,000 public service spot and expect to hit 100 percent of the people. The Madison Avenue types go in with millions of dollars to market their products. All you expect is to build some awareness of the problem but you can't expect to win everybody with the magic public service announcement. It was pointed out that part of the problem with the public service spots in highway safety has been quality. We are competing against large firms with thousands of dollars for their public service spots compared to a safety message that is relatively poor in quality.

Dr. John Hughes, from the University of Arizona, suggested that if a national standard was established that news reports on accidents had to report whether or not the individual was using a safety device, that the impact of the negative information might be more phenomenal than all of the public service spots combined. A comment was raised that going to the broadcasters was not necessarily the right place, but that private executive producers should be approached. They are the script writers and the directors. The directors on the set have the option of deciding whether you put your seat belt on or not. What you also have to do is get a commitment from the writers to put in the message. There is the Writer's Guild that can be approached and the Director's Guild. If you reach these two groups you have got the people who are there on the set and have the ability to really do something.

Session 3: *Selling Passenger Safety to America*

Ms. Hughes began with the discussion of what advertising can do. She pointed out that there are indications in our society when an issue has really made it. We see it advertised on T-shirts or bumper stickers. These are symbols in our society that we are familiar with. If an issue means something at all it usually surfaces in one of these forms.

We are in the process of making child passenger safety an issue. One way is to try to convince the influential people that children should ride home from the hospital in a safety seat. This involves talking to obstetricians, pediatricians, and prenatal clinic staff. It's got to be an integrated program.

Ms. Hughes suggested examining the first ride home philosophy. It is a message and a method. It was pointed out that the important thing is to choose a place to start. Why not start with that infant coming home from the hospital? If the parents are willing to take that several day old child out

of their loving arms and place it in a child safety seat they have made a significant commitment.

Ms. Hughes pointed out that to successfully sell the first ride home message it was important to organize the volunteer support groups for actually promoting the program in addition to convincing the parents. The first priority should be communication to the medical community. We need to reach the nurses who have been putting babies in mothers' arms for so many years that they just cannot break the habit. You are going to have to convince the persuaders of your message and educate them so that they can convince others. We need to do massive outreach. It can be through hospital associations and/or public interest groups but we must get the information out.

We haven't got the resources to go out and demonstrate to everybody which are the good restraints. However if the hospital recommends a seat and will rent it to you, then that solves the problem. It also gives a certain amount of credence to the value or the importance of the seat. It is a good seat, otherwise the hospital would not have made it available.

The next step is to motivate individuals to change their behavior. You have to motivate them and reinforce it. The principle of reinforcement is something that we also must pay more attention to.

There are two kinds of reinforcement, one is quantity and the other is variety. Both are really necessary. The point being you can run the same ad a zillion times on television but at some point it loses its effectiveness. Here variety is just as important as the message. This is variety in terms of medium on television and in print. We need to examine what channels we have to get an integrated message to the family. One channel would be people who deal with women during pregnancy and delivery.

The reinforcement of this information also has got to come from those with whom the parents are dealing subsequent to delivery, like the pediatrician. We must also expect that the nurses and doctors need to be reinforced constantly in order to continue giving the messages. We also have to reinforce the parents for continuing to exhibit the correct behavior. We are talking about two separate kinds of messages, but they can be mutually reinforced through the broadcast medium or print medium. It was also noted that legislators, like doctors and nurses, are a target population that must be educated about the importance of the child restraint issue. Child restraint legislation acts as a reinforcer in keeping the behavior going because it is an accepted practice.

Ms. Hughes noted that she was very concerned about whether there were differences between the messages that should be sent to parents to get them to buckle up their children and what happens in terms of keeping them buckled up for a long period of time. Peer pressure is one factor but she questioned if it is enough. She noted that we must keep an awareness of the fact that it is not just the initial decision that needs to be addressed.

Cheri Calvelo, with the Michigan State Medical Society Auxiliary, noted that both she and her husband were involved in the medical profession, yet didn't realize what a

problem child passenger safety was. Once they became involved they decided that their best efforts would be to concentrate on grassroots organizations to sensitize these people to what the problem was and to get them involved in some kind of program. They began to work with people from the medical auxiliaries, obstetricians, pediatricians, people for child birth education classes within the health Department, the hospital auxiliary, the American Association of University Women, the local State police post, representatives from auto dealers, insurance companies, dental auxiliaries, parents groups, and the Welcome Wagon.

We realized that we needed an identity. How can you spread a message if you don't have an identity? So we came up with Jackson (Michigan) Child Passenger Safety Association as a name. Our purpose was to insure the right of every child to protection from injury or death while being transported as a passenger in a motor vehicle. Of course the child has the right, but it is really the parent who is making that decision whether or not the child is going to be safely restrained. We sent different members out to survey the community to see if the car seats were available and in what quantities. If auto dealers had them in the showrooms or tucked away somewhere or if you had to order one. We developed a shopping guide and noted a great discrepancy in prices, sometimes \$20 to \$25. We felt we had to make the community aware of these discrepancies.

We also spoke to physicians about putting this material into their offices. We encouraged pediatricians to ask when children come in for their periodic checkups if they were transported in child restraints. We worked with the auto dealers to make child restraints more accessible. When a person goes in to buy a car you would see one there. You see the tether strap not just hanging there but attached. We went into a toy store, which we found was one of the biggest merchandisers of the car seats and found that they were all tucked back in a corner.

In September, we participated in Buckle Your Child In to Safety Week. One retailer's whole front window was filled with restraints. They had so much positive feedback from the community that the display was moved into a much more visible position in the store.

The Health Department is another source where we displayed some of our materials. Local malls are also a good place to distribute materials. People would pass by in the mall and make a special effort to stop and watch some of the audiovisual things. The price list has another advantage in that by keeping it updated, it shows the merchants we are still interested, that we are coming back to the people and saying that you have changed your prices.

The Child Passenger Safety Association is just another way of bringing together organizations and individuals to share the resources that we have and to use them optimally. The question was raised whether or not Ms. Calvelo had identified a forum where she could reach the parents of toddlers who should be in child restraints but at this point were not? She mentioned study groups of the American Association of University Women preschools and day care centers, and pediatricians' offices.

Dr. Mark Widome from the University of Pennsylvania Medical School noted that he thought a comprehensive pro-

gram for adults, toddlers, and infants was important. He pointed out that toddlers are creatures of habit, that if they ride in infant seats, they will ride in toddler seats. He also noted that its an age (particularly around the second birthday) when they are interested in imitating and pleasing their parents. The question of whether the parents are properly restrained makes a big difference in terms of how easy it is to keep a child in a car seat. The issue was raised that when they go to school in a bus there is no child restraint or seat belt for them to use. It's psychologically something that we all need to think about.

Session 4: The Decision to Buckle Up

This session focused on the decision to buckle up. Who buckles up and why or why not? Dr. John Philpot, Associate Professor of Statistics at the University of Tennessee identified seven major variables that discriminated restraint users from nonrestraint users in the Tennessee area. The most important characteristic was whether or not the driver used a seat belt. If the individual is safety conscious for themselves they're going to be safety conscious for their child. It is a great discriminator—if you use seat belts, you will use child restraints. The second item is educational attainment. Those people who have college degrees or masters degrees tend to use child restraint devices (CRD's) and those people who have not graduated from grade school tend not to use them. The third item would be family income. Those people with higher income protect their young better than those with lower incomes. This may not be the sort of discriminator we would like. It could indicate that child restraint devices cost too much. This was a frequent complaint. Certainly family income would make a great deal of difference there.

Next there is vehicle ownership. Those people that own the car are more likely to be CRD users than those people who do not own a car. This stands to reason because CRD's are not that easy to transfer from car to car. Another indicator of whether or not a CRD was going to be used was the age of the child. Young children tend to be put into CRD's far more often than older children. This is probably because the older children get rambunctious while it is fairly convenient to transport an infant in a child restraint device. This is showing up even after 2 years of trying to get across the idea in Tennessee that we should protect everyone under 4 years of age.

Driver relationship to the child was the next most important item. Parents are more likely to protect their children than grandparents, friends, or babysitters. Parents ought to be alerted to this fact because the child is very much at risk if he travels in a car with someone else. The last major discriminator is the number of adults in a vehicle. There were fewer adults in vehicles where CRD's were in use. If you have got one adult to take care of the child and another to do the driving that is considered to be good enough. Whereas if there is only one adult in the vehicle, very often that adult will put the child in a child restraint.

There were some secondary items that turned out to be a function of the primary items that also influence usage. Employment status of the respondent users tended to be

either employed or homemakers married to someone who was employed. Users tended to be married or living with a mate. Two vehicle families were the highest users of CRD's whereas one vehicle families were the lowest users. Newer vehicles were more likely to have a child restraint device in use rather than older vehicles. These results may be spurious because they are all a function of income or education.

Basically what we found was the higher the education and the more likely the person was to use their own seat belts, the more likely they were to have a child restraint device. These figures are from the baseline observations we did in Tennessee 2 years ago but in looking at the most recent figures it appears that the pattern is still the same. What we have found is a general safety consciousness that has to do with usage which is influenced by education, income, and other socioeconomic status variables. This indicates that there is a real need to have loan-a-seat programs or other distribution programs because you definitely need something to reach the lower income group.

Dr. Philpot provided some of the statewide usage rates in Tennessee. The first operational period usage was about 15.4 percent. After 18 months, it was a 16.5 percent and after about 2 years it was slightly above 20 percent. As a result of this they feel that the information campaign is working in Tennessee. He noted that this may be the only safety campaign that has increased usage of safety devices steadily over a long period of time.

Dr. William Wilson, Teknekron Research Corporation, discussed an analysis that he has recently completed on getting occupant restraint laws passed at the State level. The goal of this study was to identify what the problems were and design some campaign materials and techniques that could be used to increase legislative support for occupant restraint laws. The findings are generally applicable to child restraint laws. After talking to over 100 legislators in about 16 different States, Dr. Wilson concluded that there was some legislative support for occupant restraint laws in every State. Typically those legislators were belt users themselves, or have a consciousness and awareness of the need for occupant restraints. They were somewhat familiar with the benefits of wearing belts. In contrast there was a slightly larger group of legislators who were terribly opposed to such laws. Mainly because they personally disliked belts and believe them to be ineffective and also dangerous. They discount any argument that's made on behalf of occupant restraint legislation. Often their opposition was subjective and emotional.

Dr. Wilson did find that most State legislators, however, fall into a third category—somewhat neutral. These are legislators that believe in the value of occupant restraints but are skeptical of the idea of compulsory usage. They are concerned about substantive issues associated with such things as enforcement, government intervention with private life, and the cost of the device.

Dr. Wilson also found that whether or not legislators are for or against the law the issue of occupant restraint legislation seems to be decided on whether or not the legislator is a belt wearer.

Another important conclusion that was drawn was that the legislative process itself tends to work to the advantage

of those legislators who oppose the law and to the disadvantages of those who support it. The first problem is just getting the facts and arguments to the legislators. Very few legislators attend any sort of committee hearings. They don't have the time and, therefore, rely on the members of the committee to make decisions about the value of a particular piece of legislation. Most often they will support it if the committee approves it. However, when you get an issue like occupant restraint laws which they view as publicly unpopular, they will back off and typically oppose that legislation. Another problem in the legislative process is that in many cases you will find that there has been success in one chamber of the legislature but when it goes over to the next chamber, there is nobody there to pick up the ball. You have to have support in both chambers and basically have to work concurrently in order for maximum effectiveness. The most effective argument that we were able to develop with neutral legislators was savings to the States in terms of tax dollars. We put together a compendium of all of the arguments that were proposed on behalf of occupant restraint legislation. This document, entitled *Occupant Restraint Legislation: A Guide for Proponents*, is available from the National Highway Traffic Safety Administration.

Hugh Tirrell from Visucom Productions spoke about motivation. How do you inspire mothers and fathers of infants to use infant restraints and to buckle themselves up? Mr. Tirrell noted that the highway safety field has not addressed the fact the people are making a decision when they don't do something. Two decision need to be made when considering whether or not to use child restraints. One typically looks at the cost and the benefits of making any decisions. We need to determine how we, as concerned people, are going to motivate them to make these two decisions: One, to buckle up and, two, to buckle up properly.

In producing a film on infant restraints recently, Mr. Terrell noted that he was amazed at the number of mothers who were using child restraints but using them improperly. Somewhere there was a lapse in the decision of caring enough and spending the time and energy to find out how to do it right. This is not necessarily an easy thing. To do it right takes some cost. It takes time, effort, and energy. Some of the cost that the user perceives are what we as a group must overcome. First of all there is the economic cost. The analogy used in the film is that the cost of an infant carrier nowadays is about the cost of one tank of gasoline for a major car which will allow that driver to drive approximately 200 to 250 miles.

We asked the question do you really want to measure the value of your child's life in drops of fuel? In turning it around backwards and asking how many times do you fill up your car, were you willing to do that, and is this really a major cost?

Another problem is the motivation of following the instructions to determine where the seat belts go on the restraint system. This is a hassle factor and a time factor. You have to erase that cost to help people make the decision. You erase it by acknowledging that it is there. You say, "Look mother, if you get these, it's going to wind up taking you 3 minutes every time you put the child in the car." Now let's talk about how much time you spend changing the

child, grooming yourself, etc. and suddenly that time commitment starts to wane a little bit as far as the cost goes. It can be a value in helping to make a proper decision. These are all decisions we have to make. Read the instructions, follow the instructions, or if we can't figure them out, make the energy commitment to go and find somebody who can and to put up with that hassle.

You must also measure the benefits. A discussion of reducing traffic safety fatalities with this group does not provide much of a perceived benefit. The mother of a brand new infant is not realistically going to consider the probability of death when she has just given life. Then the possibility of injury, disfigurement, or epilepsy are much stronger hooks. It is for this reason that I feel very strongly that if we believe in this cost benefit theory, then we have two very different target audiences. One is that of the person who should be utilizing the infant carrier—the expectant parent or the brand new parent. You have a whole lot of different psychological things going for the parent who has a new baby that needs to be fed, clothed, and protected. Then we get into the 9-month-old or older child where the mother has had the hassles of taking them out on different kinds of trips. I think we really confuse the issue when we say in the same message use an infant restraint and use a child restraint. When you're talking about the older child you're talking about different cost benefits of the seat being a babysitter and providing a certain amount of control. But the mother is not going to remember that benefit when she has just given birth. The deepest motivation is do you care enough about yourself and do you care enough about your child?

John Lutzker, from Southern Illinois University described some behavior modification research that is applicable to traffic safety. What goes on in cars is a lot of disciplinary kinds of things and backwards behavior modification. Many people who very appropriately use child safety seats still utilize backwards behavior modification approaches in the car in terms of how they interact with their children. One of the things they do is they let their children determine when to stop on a long trip. When the child whines and asks if we are there yet is when the parent stops the car. Instead of letting the child teach you that he needs to whine and cry and become uncomfortable before its time to get out of the car, you teach the child that after a certain length of appropriate behavior and before he complains you will stop. You say that you have been so sweet and so cooperative that I thought it would be a nice time to stop or go to the bathroom or exercise or buy a little trinket. You want to encourage proper behavior in the car through frequent praise, such as, I like the way you are behaving. Praise the behavior not the child. Never give in to complaints about the restraint. Ignore them unless the child goes to unrestrain itself, in which case you stop the car, restrain the child again and then go. Never do you stop contingent upon the child controlling the situation, although Dr. Lutzker pointed out that kids control parents about 95 percent of the time. He also suggested that you bring things for children to do that are safe. He gave the example of his 9 year old child who sits in his seat belt and does a puppet show for the 3 year old who is in his child safety seat. This

entertain both children. You have to provide positive social reinforcement on a frequent basis. You have to stop frequently contingent on appropriate behavior. If you get out before you get too tired the whole trip goes better even though it might take a little longer.

Dr. Lutzker described a study that he is doing through the Family Practice Center in Southern Illinois. They will be observing behavior on long trips through 15 minute rides and 60 minute rides. They will be looking at parent/child interaction, the amount of praise, the amount of attention, the amount of inappropriate child behavior, and the amount of inappropriate parent behavior. They will also be looking at appropriate compliance with the child safety seats, that is appropriate use. Is the tether at a 45° angle? Is the belt secured where it is supposed to be? Is the child put in the seat or is he expected to get in by himself? There will be three comparison groups. The first group is going to receive the child safety seats plus an interactive slide tape package that tells them the benefits of good behavior with a brief mention about traffic safety. The tape will stop several times where the mother fills out goals that she will attempt to do on the next trip, how often she will praise the child, what kind of praise, etc. The second group will receive the instructional package and no seat but they will be given a brief segment on where they can purchase seats. In that group we will be interested to see how many actually go out and purchase one. The third group will receive the child safety seat but no education.

Dr. Lutzker pointed out that what they are looking for in this project are different behavior change tools that can be used with different population groups. He also pointed out that parents need different support systems as children change in age. With an infant you have a nonmobile, non-resistant child.

When those kids start to sit and crawl and walk and talk you've got a whole different ball game. That is when parents need their support system in force and need new resources.

When parents call me to complain about their child's behavior, some of the questions I ask are is the restraint they're using actually appropriate for their child? Is this child able to sit up? Do they still have the seat in a reclining position? Is the car seat ready to be faced forward? Maybe they have a round toddler who physically will not fit it the shield and this kid is screaming because his belly is squashed. Where did they have the child in the car? Maybe you need to move him in the front seat where you can have a little more interaction. A real savior for us is the tape deck, where my 3-year-old can listen to record after record. It takes a lot of thinking of the part of a parent to try and keep a child happy.

Session 5: Using Public Information to Counter Myths

This session addressed how public information materials can be developed that counter misinformation about child passenger safety. The first speaker, Annemarie Shelness, from Physicians for Automotive Safety, discussed several of these myths. First of all there is the myth of entrapment—that you become trapped when you are sitting in a seat belt and you can't get out. Next there is the myth that

safety belts are not suitable for small children. We need to clarify that special child restraints are indeed better, but we need to qualify this by saying if no special child restraint is available buckle the lap belt around the child. Seat belts certainly do not distribute loads the way a child restraint will, they could possibly cause internal injuries, but nonetheless they are still better than having the child go through the windshield or out of the car entirely. So safety belts should never really be depicted as dangerous for small children. Whenever you see some misinformation in a newspaper, for example, write to the editor. That's the only way to eliminate this problem.

The second myth is that the use of child restraints necessarily leads to a child's protection. That the seat that has received the highest rating is necessarily the safest seat. The highest rated seat was so rated by Consumers Union and happens to be the Stroeel which is a very good seat when used properly. We know that this seat, as indeed many others, requires a top tether which is frequently not properly used. As far as the retail stores are concerned the Consumer's Union rating is a valuable thing to have to promote a product. Stroeel has been selling, I am quite sure, by the hundred of thousands since that rating came out. The only thing that I have against the rating, and I have nothing against the seat, is that it was not explained that the best seat when properly used becomes a dangerous seat when it is not properly used. Seats that were rated good or acceptable but not necessarily the best, might be safer than the seat used without the top tether when indeed it was designed to be used with one.

The most popular question is which is the highest rated seat? Which do you recommend? You must assess what the mother is going to do. Even take a look at the child and decide whether the child would sit still. Decide whether the mother is conscientious enough to spend \$20 to have the top tether installed. Just recommending a child safety seat does not mean that that child safety seat is going to be used correctly. A parent of a number of children will not be able to find the time to buckle each child in every time those children are taken in and out of the car. This is where a seat like the Ford Tot-Guard becomes a lifesaver because the child can climb in and out by him/her self. But the Ford Tot-Guard received the lowest safety rating. It will pass, incidentally, under the new standard.

It is not as easy to design a seat without a top tether that will stay in place. In fact, quite junky seats can be made to say where they are by just attaching a top tether strap. Those of you that are going out there and spreading the message ought to bear in mind that the safest seat can become unsafe if it is incorrectly used.

Ms. Shelness read from the pamphlet that Physicians for Automotive Safety puts out.

"Which is the safety restraint? The answer is simple, the one that you will use properly every time. Unless the manufacturer's instructions are carefully followed the protective value of the safety seat will be greatly reduced and could be entirely defeated. Some seats have more straps that need fastening than others. Be realistic about how much you are prepared to spend before making a choice. Seats that have a top tether strap provide an extra margin

of safety. But unless that strap is fastened every time, your child will be safer riding in a seat designed to give protection without a top strap. If you will find it too time consuming and cumbersome to fasten a harness, consider a shield type device. The guardrail with which some seats are equipped has no crash protection and could even contribute to injuries. Shop carefully, and make certain that the seat will fit in your car and that the belts are lot enough for securing it. Read the instructions before you buy so you know exactly how the device must be used."

Ms. Shelness added here that some of the top tether seats don't even depict the tether in any of the point of sale literature. She pointed out that the General Motors seat does show the top tether and that the top tether seats are the safest when properly installed.

Julie Candler, the next speaker, is an author for *Women's Day* magazine and writes an article called "Women Behind the Wheel." Ms. Candler gave some tips on how to get the help of newspapers, radio stations, television stations, and magazines to promote child passenger safety. The single most important thing is you have to make news. You just can't go in and say we would like you to do a story about child restraints and how important they are. You might be able to do that once, but after that you can't go back and get anything more. You have to have something new, something for them to write about. You have got to get activities going. Make news yourself, such as workshops or organizing loan programs, or inviting celebrities to speak, or putting on displays in local malls. Anything you can think of doing that will get the news media to cover an event will help you get the public's attention.

The second thing is that when you have a press release in connection with some of your newsmaking activities, I would strongly urge you go to the various news outlets in person and deliver it. This is especially easy in smaller communities. It makes the editor or the news director with whom you are meeting realize that you consider this important. It is also important that you don't overstay because news people are terribly busy. Just stay long enough to hand the release to them, ask them if they have any questions, and then leave. If it is your first visit to a newsroom, be sure to take along a little brochure that explains your organization, what your goals are, how you are funded, etc. Third, don't be pushy—just let your enthusiasm sell your story to these people. Fourth, become a good source of news tips yourself. If you hear about a story, even if it isn't about child safety, that you think might make a good item for the newspaper or TV, call them. They will be more cooperative with you if you are a good news source for them. Be especially certain to tell them if you have a success story that involves someone you know or an incident you have heard of in which a child has survived. Christy Hughes mentioned one to me the other day about a child who was in a child restraint that went down a 200 foot embankment and survived and was just fine. If you have a story like that, just as soon as you hear about it, when the news is fresh, go tell your news outlet, your TV station, or your newspaper because that is some of the best publicity you can possibly get for the cause. Always send a note of appreciation and thanks for any coverage that you do get. If you have some good results because of the story, tell them. They appreciate

any kind of positive results. The last thing is to get a real celebrity on your side if you can. You can get a lot of help and a lot of activities covered if you could just get Robert Redford to come.

The most important medium of all is television. If you have got only one place to go for coverage, go to TV stations. News directors, especially in small communities, are always looking for events to cover that are interesting from the visual standpoint. They like action. So think in terms of visuals. A great thing for a visual would be if you had a seat belt convincer that was in use in a meeting. They are always looking for good interviews for their local public service programs and they are always looking for good people to be on their talk shows. If you have good film footage, that will help. TV news coverage was one of the reasons they were able to get the law through in Tennessee. Along with the TV news, they got a 30 minute special on one TV show and a 1 hour talk show on another.

As for radio, prime time radio is especially effective. Listen to the programs on the air in your community and always think in terms of people and projects. Think of how your own organization might fit into this particular station's programming. How what you do might be of use to the listeners. Try to line up interviews. Send releases in advance to the news director if you have an event coming up that you think listeners might be interested in.

Magazines are different because they have a long lead time. Right now, I'm working on an article for *Women's Day* that is going to be in the April issue. So naturally, we are less interested in news angles and more interested in features that are entertaining or interesting or can be of service to our readers.

Every time I have written a story for *Women's Day* about child restraint use, it is because there have been new developments to report. The first article I wrote on the subject, in 1968, was about a car bed that had just come out on the market. In 1970 we did a story that featured the new Ford Tot-Guard and the General Motors Love Seat. A few years later I did a story on the results of accidents in which pregnant women were (or were not) wearing seat belts. I included with that some more advice about child safety, particularly small children. In 1974 we published a story about the new devices that were appearing on the marketplace. As loan programs emerged and more dynamically tested child seats came on the market in 1976. We wrote about them. I also included information about organizations like Physicians for Automotive Safety and Action for Child Transportation Safety.

Many local magazines can be an excellent source of help to the organization working on child safety, like the Sunday supplements. They get good readership because they run a lot of nice pictures that are attractive and get people's eyes, although they read the copy too. Be sure to read the magazines and learn the types of material they are interested in. You can learn a lot about a magazine by just looking at the advertisements. Remember that what magazine editors want is something new and something interesting or helpful that no other magazine has published.

Dwight Fee, Public Information Specialist, with the National Highway Traffic Safety Administration, discussed

the kinds of norms that we want to promote about child passenger safety and restraint use. One of the many ways in which we want to use the media is to establish, over time, an expectation of society so that people pick up the cues that tell them how to behave in a certain situation. This is what happens when a child expects to see a safety belt and expects to cooperate. It is important to establish a climate that says this is the way it is done. This is enforced in various ways from various sources from parents, from peers, from people in positions of influence, and certainly from the media. We want to make sure that the right message is emanating from parents, peers, people of influence, and the media.

Mr. Fee distributed a copy of a paper entitled, "Communication's Role in Highway Safety," which basically discusses implementation tools and a way of acting on the information that we are already aware of. This draft paper has a tone to it which is rather heavy handed and advocacy oriented because I think a lot of people like that kind of posture. But one of the things you want to be careful of is that you don't interfere with the freedom of the press. The media is out there to be used. What we want to do as safety advocates is to pay attention to what is in the media and whether or not the influences that are in the media are constructive. When we monitor the media it is not so much to stop the negative stuff, but to identify what is positive. We should be looking for ways in which media can reinforce the positive messages that we want people to receive without endangering their production values, their attainment values, their news judgment or their profits, and there is a lot that the media can do without interfering with those things.

We really think too much about the public service spot in advertising. We should really be putting our energy on the news side and on the feature side. It is much more difficult. It takes a lot more shoe leather. It takes a great deal of ingenuity I would say that public service advertising—not that it is not useful—is the last thing you ought to think about in designing a public communications program unless you are able to pay for the space. I think there are many more gains to be made by using the many channels that we have already talked about.

One other thing that needs to take place is the use of clippings. To demonstrate the human dimension of this problem, the suffering. I think print is best because it lasts and you can put it into scrapbooks.

Somebody in the community should keep a scrapbook of the obituaries and the stories about the crashes, etc., that can be made available to city councilmen, State legislators, Congressmen, police chiefs, or mayors. It will not provide a lot of statistical evidence, but will provide human evidence of the scope of this problem. Now if you want to get a little bit more sophisticated about it, then you can analyze that scrapbook in terms of how the topics are being covered. Then you can begin to organize people to listen to radio, watch certain television programs, fill out their forms, and turn in their reports. You begin to get a picture then of how the media is working for or against the establishment of these useful norms in our culture.

That is what this whole idea that is being proposed of monitoring the media is all about. Our resources are so limited, but we can find ways to get the child safety restraint

message or the highway safety message into ongoing activities in the classroom, in the university, in the media, in the church, and in the various institutions in our culture.

There will not be more resources; there will be less resources. Those of us who are used to planning our programs and seeing the dollars, it is just not in the cards.

This kind of approach of reaching out to these disciplines to see who can help whom without new money, without new staff, is the way we have got to go. I think the media monitoring, the promotion of safety belts, the promotion of child restraints, this single issue may demonstrate to us and give us experience with this process that we can use across the board in many issues.

I just don't know whether you all feel that the way I do, but we just don't do enough interfacing with the many, many people who are able to help us and who can deliver

our message for us. We don't have to speak directly to the American people. There are many, many people who already have their ear. Let's find those people and get our message in there along with the rest.

A comment was made by one participant who claimed she had spent the last two days with growing horror that we are creating another myth. I have heard speaker after speaker refer to the fact the the rear seat is safer. The problem is that those statistics invariably refer to unrestrained occupants. A restrained child in the front seat may be shown statistically to be safer than an unrestrained child in the rear seat. Additionally, you must face practicality. If you as a driver are distracted by your 18 month old child in the rear seat, you are more likely to be involved in a collision and, therefore, the rear seat may not be safe.

Research and Evaluation Workshop

The Research and Evaluation Workshop was structured to address problems concerned with (a) the design, development and testing of child restraint systems and (b) the effectiveness of both child restraint devices and programs aimed at promoting their use. The workshop was divided into five topic areas that included:

1. Federal Standard 213 Governing Child Seating Systems.
2. Innovative Child Restraint Systems for the Future.
3. The Compatibility of Child Restraint Systems with Different Adult Restraint Systems and with Different Types of Vehicles.
4. Restraint Use and Seating Position as Factors Influencing Injuries to Children.
5. How to Determine If Your Program is Effective.

The moderator for the first three sessions was John W. Melvin, Director, Brometrics Department, Highway Safety Research Institute, University of Michigan. The last two sessions were chaired by Allan F. Williams, Ph.D., Senior Behavioral Scientist, Insurance Institute for Highway Safety. The following narrative will present some of the most important issues, problems, and solutions raised at these individual workshop sessions.

Session 1: *Federal Standard 213 Governing Child Seating Systems*

Federal Motor Vehicle Safety Standard 213 specifies design and testing requirements for child restraint devices. The major point of discussion in this session was the impact of the revised NHTSA Standard 213-80 on manufacturers, researchers, consumers, and regulators.

The key features of this Standard that vary from the earlier Standard and the new Standard as proposed are as follows:

1. The Standard covers all infant and child restraints, including car beds, for children up to 50 lbs.
2. Primary dynamic testing simulates a 30 mph impact. A second test at 20 mph is required for restraints with top tethers and armrests in the misuse mode.
3. Rear-facing and car bed infant restraints must retain the dummy within certain confines and must have specified head area padding. Rear-facing infant restraints must not change reclining adjustment position and may rotate during dynamic testing up to 70 from vertical.
4. Forward-facing child restraints must limit the test dummy's head acceleration (less than HIC 1000), chest acceleration (less than 60 G), forward head excursion (less than 32 in), and knee excursion (36 in).
5. Forces necessary to open harness buckles must be between 12 and 20 pounds.
6. Child restraints are to be secured by vehicle lap belts, with additional tether straps optional.
7. Installation and use warnings must be visible, and detailed instructions storable on the child restraint.
8. The effective date in June 1, 1980.*

Resource people were identified from the manufacturing, consumer, and research areas to discuss the Standard's effects. Those persons representing the Manufacturers were:

Quentin McDonald, The Bobby-Mac Corporation
Paul Meeker, Century Products
Donald Gerkin, Cosco/Peterson
Clifford Kelley, Ford Motor Company
Roger Maugh, Ford Motor Company
Thomas Terry, General Motors Corporation
Robert Walker, General Motors Corporation

Sumner Swig, International Manufacturing Co.
Jerry Koziatek, Questor Juvenile Furniture Co.
Richard Hyde, Strolee of California

Mr. Val Radovich, the principal author of the revised standard represented, the National Highway Traffic Safety Administration. The consumer organizations were represented by:

Carol Thelin, Consumers Union
Annemarie Shelness, Physicians for Automotive Safety
Joy Moon, Consumers Association of Canada
Ernest Cooney, Wisconsin Department of Public Instruction

Representatives from the research field were:

Barbara Kellerher, Calspan Corporation
Michael Walsh, Calspan Corporation
Lawrence Schneider, Highway Safety Research Institute,
University of Michigan
Kathleen Weber, Highway Safety Research Institute,
University of Michigan
Heinrich Von Wimmersperg, Independent Inventor

*Since the conference, the effective date has been postponed to January 1, 1981.

The primary concern of the manufacturers of child restraints was the 6 month lead time allowed by the Standard. Twelve months was cited as the minimum necessary to design, tool, produce, test and market a new product. There was general agreement that most of the current restraints met the dynamic test requirements but that other aspects of the Standard, particularly the buckle force requirement, would necessitate new devices. Making the Standard effective in two steps, the acceleration and excursion criteria now, and other aspects later, was offered as a possible compromise. Delaying requirements which will lead to new designs would also make it possible for advertising catalogs to reflect the current products and would reduce possible confusion for consumers.

The test requirements for child restraints in common misuse modes were supported by most manufacturers as far as the top tether was concerned. However, there was some opposition to the effective elimination of the armrest, because this feature is considered to have positive marketing value. Other manufacturers disputed this value, and Paul Hletko, a pediatrician suggested it had drawbacks in every day use.

Tom Terry of General Motors suggested that testing products under use conditions not recommended by the manufacturer was a dangerous regulatory precedent to set. The interpretation by courts that manufacturers are liable for reasonable abuse should suffice to deal with this problem. It was noted by Joy Moon, Consumers Association of Canada, however, that such a precedent had already been set in Australia, where child restraints are tested with slack harnesses.

Various aspect of the test requirements were questioned by researchers and consumers. Data were presented showing

that current automobiles may not have the head excursion space allowed by the Standard. Val Radovich, the NHTSA representative justified by test criteria by citing effective field accident performance of certain restraint systems that come close to not meeting the originally proposed 30 inch excursion limit. It was also pointed out that the test is not conducted on a real vehicle seat, but rather on a laboratory test device simulating a bench seat. It is a mistake to try to transfer results of a laboratory test situation directly to a real automobile.

Several participants were concerned about the lack of a lateral impact test requirement, citing side impact protection as a high priority area at NHTSA. The argument for allowing child restraints that have performed well in the field to continue to be sold was again mentioned. The side-impact problem will probably be addressed sometime in the future, after the frontal impact requirements are put into effect.

The buckle release-force minimum requirement, which is predicted to cause the manufacturers the greatest problem, and the suggestion by NHTSA that pushbutton designs may be required in the future were viewed by some consumers as counterproductive. A particularly convenient snap-type buckle currently on the market would probably be eliminated by this aspect of the Standard.

Problems with seat belt compatibility were discussed in this session; however, they are summarized under Session 3 with other compatibility issues.

Session 2: Innovative Child Restraint Systems for the Future

The development of new and better child restraint systems was the topic of the second session of the Research and Evaluation Workshop. The manufacturers assured the group that FMVSS 213-80 would not freeze child restraint design once the requirements are met. Restraint designers and manufacturers went far beyond the old Standard and, for competitive reasons, will do so again. In fact, the need to guess what would be included in the new Standard actually inhibited innovation. Now that the industry knows what to deal with, new and better systems will be forthcoming.

Less optimistic views were voiced as well, however. The ratio of cost-to-profit potential for developing a new product is low as Bill Headly of Hamell Manufacturing explained. Sales of child restraints are about a million and a half units per year. These are distributed among about eight major manufacturers. The tooling cost alone for a new molded plastic shell is estimated at \$200,000. This represents a major investment for small firm, or perhaps a low priority investment for a large corporation handling child restraints as one of many product lines.

Jerry Koziatek from Questor suggested that there were many factors other than safety standards operating to influence buyers in the marketplace. A case in point is an independent consumer rating system that may be inaccurately interpreted to mean that all but the top-rated product are not acceptable. To counteract this influence, cosmetic features such as armrests may have to be added to increase sales. Perceived value by the public can come from many sources, and such perceptions may operate to stifle innovation.

Restraint systems for older children, both boosters and upper torso restraints, were discussed as innovative systems, even though one has just been put on the market in this country and another will be available soon. Several film clips were shown of sled tests of these and other "quick fix" booster and/or harness systems, using two different 6 year old test dummies.

The two commercial systems (Century Safe-T-Rider and Volvo Child Cushion) contain steel structures under foam padding and effectively redirect the adult belt forward and low over the child's thighs. The sled tests with these systems showed good results. The tests of the quick fixes were mostly disastrous. Parents should therefore be warned that insubstantial boosters, such as styrofoam or boat cushions, that do not hold the belt in place may do more harm than good. Researchers observed that, unless there is an upper torso restraint, merely raising the child lengthens the lap belt and creates a greater risk that the child's head will contact the dash or the back of the front seat. From the safety standpoint, it was generally recommended the home-constructed booster cushions be discouraged.

Heinrich Von Wimmersperg, an inventor, described the infant restraint system he had developed. It is a rear-facing infant restraint with rear-support poles that go to the floor. In a film clip of a sled test, the restraint did not rotate toward the dash at all, nor did the dummy move up the back of the restraint. The second was a restraining best with two top tethers for older children. A film of a sled test demonstrated good performance.

While not trying to detract from the safety value of restraint system improvement and innovation, Tom Terry from General Motors nevertheless questioned the effort spent on fine tuning systems that are so infrequently used. He suggested that innovation should be in the direction of making child restraint systems so simple to use, without extra straps and structures, that parents will put their children in them.

The final item discussed in this session related to innovation, but with special emphasis on restraint systems for handicapped children. There is a real demand among physical therapists and others needing to transport handicapped children in vans and buses to have an appropriate occupant protection system. With no good information to go on, many children are being transported in wheelchairs anchored to various ways with vehicle belt systems. Basic principles of restraint system design are being violated. A film of several of these systems on an impact sled showed the disastrous results. Larry Schneider, from HSRI, pointed out that wheelchairs were not designed to be used for transporting a person within a vehicle. They were particularly not designed to protect their occupants during lateral impacts. But for practical reasons, handicapped children are often transported in their wheelchairs, and these are usually placed with their backs to the side wall of buses. In frontal impacts, even tethered wheelchairs collapse, swing toward the bus wall, and injure their occupants with their own structure. Mr. Schneider indicated that the results of these tests were published in a Society of Automotive Engineers paper (#790074) in February 1979.

Two more inventions were described for restraining

children with muscle control problems. One was a variation of the tethered vest, developed by Sue Klitch, an inventor, from Cherry Hill, New Jersey, and another, described by Joy Moon from Consumers Association of Canada used Velcro on the back of the seat to hold the child upright while being protected by the Ford Tot-Guard, a shield-type child restraint.

In response to a question concerning funding for research in this area, Rhodes Stevenson, NHTSA Associate Administrator for Research and Development replied that a small program to test some of these new systems was being considered. He also commented that the new Federal laws declaring handicapped children's rights to public education may create a substantial market for safe transportation systems for these children.

Session 3: The Compatibility of Child Restraint Systems with Different Adult Restraint Systems and Different Types of Vehicles

The question of compatibility of child restraint systems with future automobiles is a difficult problem. The automobile manufacturers must comprehend the needs of the Child Restraint manufacturers and vice versa. There are many constraints placed on the final product design. As vehicles and restraint systems change over the next few years, these problems may become more complex. To explore these problems and some potential solutions was the purpose of this session.

Automatic belt systems, which have no manual lap belt, present serious problems for parents who wish to install a child restraint in the front seat. Although NHTSA recommends putting children in the rear seat, it was recognized that rear-facing infant carriers and convertible child restraints in the rear-facing mode are often used in front, especially because the latter frequently do not fit in the rear of small cars. According to Tom Terry, General Motors engineers have devised a solution to this problem, which they hope to have adopted as a Society of Automotive Engineers recommended practice. The idea is that vehicle manufacturers would install a standard piece of anchorage hardware on either side of the right front seat to which a belt, supplied by the child restraint manufacturer and having standard attachment hardware, could be secured. Although not provided for in the proposed SAE recommended practice, this belt could also be used to better restrain children who are too large for child restraints but not yet large enough to take full advantage of automatic belt/knee bolster systems. There would be an upper weight limit, however, on those who could safely use the belt, because it would not meet the full loading requirements of FMVSS 209 (seat belt assemblies).

The question of potential compatibility problems between air bags and child restraints was raised, but there was general agreement that, provided a lap belt was available, there was no problem.

Deborah Richards, from Action for Child Transportation Safety asked the vehicle manufacturers to explain why there were increasingly fewer cars with lap belts in the center positions. The reply cited the trend to smaller, lighter cars

and the NHTSA regulation regarding “designated seating positions,” which together preclude installation of a third lap belt, even if it were intended only for use by children. Tom Terry from General Motors explained that adding a lap belt adds the weight of a 50th percentile male to the loaded vehicle and then other tests for compliance with braking, crashworthiness, and other standards become necessary. This in turn necessitates different designs that may add further weight to the vehicle. Asked whether anchorages could be made available or whether parents could install their own belts, Mr. Terry replied that anchors would be too close together and that the “designated seating position” rule encourages manufacturers to make it impossible, with contours and hard lumps, for anyone to sit in the center position.

The question was raised by Bill Hall from the Highway Safety Research Center, University of North Carolina, if the manufacturers had any suggestions for using a child restraint in a van. Dick Hyde from Strolee related two cases where the parents had bolted the child restraint to the floor of the van. He and Bob Walker of General Motors both discouraged this procedure. Mr. Walker suggested that consumers must consider these factors when purchasing vehicles.

Problems with a lack of seat belt standardization emanated from a discussion concerning the length of the vehicle lap belt and the difficulties that many consumers are faced with after they have purchased a child restraint that is not compatible with their car. Specifying the needed seat belt length on the child restraint and providing seat belt extenders were solutions suggested by participants. Tom Terry from General Motors pointed out that child restraint manufacturers should be aware of the requirements of Standard 209 (which specifies that the seat belt fit a 95th percentile male) and design their seats accordingly. He also pointed out that adding more belt length degrades the performance of belt systems, and it would be difficult to have the manufacturers specify belt length because it varies depending upon where the seat belt anchors are placed. Carl Thelin, Consumers Union, suggested that some car seat designs, particularly semibucket seat types, require more belt length because the child restraint does not depress the seat the way an adult’s body would. The problem of bulky seat belt retractors not fitting through the frame of some child restraints was also mentioned. This is a particular problem in the rear seat of several Japanese cars. NHTSA would welcome documentation on this and other compatibility problems so that rulemaking, if necessary, could proceed.

Session 4: Restraint Use and Seating Position as Factors Influencing Injuries to Children

This session addressed what data is currently known about injury causation and the reduction potential of various seating positions, i.e., front seat versus back and various restraint systems (i.e., child restraints, seat belts, automatic restraints). Dr. Williams pointed out that we know enough now to say that children are best protected when they are restrained and in rear seats, and that both of these factors are important independently.

He also pointed out that we know from various studies that adult seat belts provide some protection even to small children down to the age of 2, as long as the belts are pulled tight around the child.

We know that child restraint systems are very effective if used correctly. There is some data from Australia that indicates that child restraints used incorrectly are capable of providing some crash protection. The data on passive restraint systems are sparse but encouraging in terms of the capability of an air bag to protect front seated children. Even one on-lap case showed encouraging results. What we do not know, however, is the extent to which these factors reduce injury. The few studies done in this area have produced widely varying results—from 30 percent to 90 percent effectiveness for restraint systems and in the teens or 20 percent range for seating position.

B. J. Campbell, from the University of North Carolina Highway Safety Research Center, pointed out several reasons why the limited research on child restraint effectiveness may be showing such discrepancies. One is that belt use effectiveness depends largely on the severity of the crash. Seat belts and child restraints can be almost 100 percent effective in reducing injury in minor crashes, but much less than that in more severe crashes. Crash severity must be considered in comparing studies of child restraint effectiveness. Secondly the level of injury severity can be substantially affected by restraint use, you may still be injured but much less seriously. Reduction in injury severity is equally important to estimating effectiveness and injury criteria must be considered when comparing effectiveness studies.

The implications of all this is that we need to have more refined understanding of how child restraints work in addition to their weaknesses and strengths. We also need to modify our data collection process to assure more accurate reporting of accidents involving children. Police forms need to be adapted to allow for accurate reporting of age, out of position children, and specific information about the type of child restraint utilized.

John Melvin from the University of Michigan Highway Safety Research Institute discussed the need for more information that would correlate laboratory testing results with real world performance, particularly the performance of seats used improperly and of older seats passed down through the years. He noted that the majority of accidents reported where child restraints have been utilized tend to be much less severe than the crash testing conditions.

Susan Baker from Johns Hopkins University School of Public Health and Hygiene emphasized the protection offered by moving the child to the back seat, estimating a 30 to 35 percent fatal injury reduction potential. She reiterated Dr. Campbell’s suggestion that more accurate police reporting is essential in terms of proper use, on-lap travel, and in particular age of infants. She indicated several trends coming out of her research, and suggested both of these areas as needing further research.

1. That the effectiveness of restraint use and seating position may be influenced by the child’s age. She noted some preliminary evidence that the rear seat may be providing greater protection for subteenaged children.

2. Ejection may be a problem for unrestrained, rear seated children.

The final item discussed were two planned NHTSA studies to evaluate the effectiveness of child restraint systems. Dr. Charles Kahane from the Office of Plans and Programs, NHTSA described them. In the first study NHTSA is collecting detailed data through the National Accident Sampling System. This study will eventually give us an evaluation of child restraint effectiveness by injury severity. In 10,000 accidents collected over a two-year period however, only 30 cases of child restraint use have been reported. Much more data will need to be collected before statistically significant results can be reported. A corollary study is looking at police reported data from New Jersey, Idaho, and New York where child restraint use is indicated on the report form.

A second study, being conducted for NHTSA by Opportunity Systems, Inc. is attempting to collect restraint use and injury data on crash involved children through hospital emergency rooms, paramedic facilities, and pediatricians offices. Some of the difficulties involved in obtaining unbiased data were discussed, such as getting only injury cases from medical facilities, getting participants to cooperate in the study, using parent-reported restraint use because of the inability to go on-scene to the the accident, collating data from different States with different reporting systems and capabilities.

Session 5: How to Determine if Your Program Is Effective

If progress is to be made in protecting child passengers, we need careful scientific evaluations of educational programs, loaner programs, and any other types of programs we are involved with so we will know whether they work or not. The point of doing evaluations is that we have some basis for making rational decisions on our programs, and we do not end up promoting programs of unknown efficiency and, perhaps, wasting our time and money.

We may learn on the basis of evaluations that a program does not work, in which case it should be abandoned and something new tried. We may learn that a program works to some extent, in which case information obtained in the evaluation can be used to improve the program. We may learn that the program is effective, in which case it should be promoted on a wider basis. Dr. Williams indicated that the majority of child restraint programs either have not been evaluated, or have been done so poorly without regard for even the minimal standards of research procedures. The literature is full of studies that have no comparison or control group, have a very small number of subjects, utilize volunteer subjects who are known to respond differently than a random sample of subjects, and rely heavily on self reported child restraint use which is often inaccurate and sometimes deliberately misstated.

As an example of how failure to conduct scientific evaluations can hamper progress, educational programs that try to influence parents to restrain their children were cited. Over the course of ten years, several such programs were developed and used, but none was evaluated properly, so

there was no buildup of knowledge concerning whether such programs worked at all, and if so, what particular techniques were most successful. A major research project, duplicating elements of prior programs, had to be undertaken to obtain this knowledge.

In order to obtain accurate information on child restraint use, visual observations have to be made. This requires well-trained observers and observation posts where it is possible to stop cars and look inside them, rather than making observations as the cars pass by. It is especially important to obtain information on correct use of child restraints.

Dr. John Philpot, Associate Professor of Statistics at the University of Tennessee expanded on the research design considerations that must be taken into account.

- Determine specifically what group you are going to measure.
- Determine the accuracy of your measurements (are you able to get unbiased results?).
- Determine any economic factors that may influence your sample.
- Determine the reliability of your study (can you repeat the measurements?).
- Determine the validity of your data (are you measuring what you think you're measuring?).
- How are you going to use the data (what comparisons are you going to make).
- Make sure your sample size is large enough so that others will believe your results.
- Collect the data in a form that is easily coded (i.e., questionnaire).

Dr. Philpot's final guidance was to get the minimal amount of information, but get in accurately.

Bill Hall from the University of North Carolina Highway Safety Research Center gave an example of how a survey is conducted. North Carolina's program was aimed at Pediatricians—to determine if the educational efforts aimed at pediatricians were successful in increasing child restraint use. Observation were made at pediatricians offices, daycare centers, and shopping malls. A special sign was made up asking parents to stop if they had children less than 6 in the car. When the car stopped a helium balloon was given to the child while the driver was asked some basic questions (child's age, weight, relationship to driver) at the same time a second observer was on the other side of the car looking at the type of restraint, if it were properly installed, and if the child were properly secured in the seat.

The results of North Carolina's study showed an increase in restraint use from 19 percent in 1978 to 29 percent in 1979. Only 25 percent of these seats were properly used; however, reducing the proper usage figures to 6 percent in 1978 and 10 percent in 1979.

Dr. Reisinger briefly discussed the observational methods used in the McGee Women's Hospital Study that he and Dr. Williams conducted. They studied three different programs aimed at increasing early use of child restraints for infants. The first group received literature about car seat utilization. Also they were advised of the availability of obtaining a car seat while they were in the hospital, prior to discharge.

The second group received literature and discussion about the importance of car seat utilization, correct utilization, in addition to the availability of buying a car seat in their hospital room. The third group of patients received literature and were given a free car seat.

Each member of the group was observed as the patient left the hospital parking lot. When the baby came back for an ear disease checkup at 2 to 4 months, usage was observed again as they left the parking lot. The fact that the Reisinger and Williams study showed few positive results from one short educational program should be heeded by States and organizations conducting similar activities.

A question was raised by Peggy Stolte from Portland, Oregon about how to evaluate a loan-a-seat program with over 500 seats in a large metropolitan area, besides doing telephone or mail surveys. Ms. Stolte was urged to find some way of doing an observational use survey even if it was only on a small portion of her sample. Dr. Williams noted that there is very little correlation between self report and actual use, especially if the respondent knows the interviewer is with the loaner program. Dr. Philpot further

pointed out that only 25 percent of a sample typically return mail questionnaires and that they are usually a highly motivated, biased group. Mr. Hall acknowledged that often times in the real world compromises must be made with research designs, but cautioned that when doing so that data must be carefully interpreted.

In response to a question by Dr. Chang from the University of California at Berkeley, the costs of conducting observational studies were discussed. Dr. Philpot reported that in the semiannual observations being carried out to evaluate the Tennessee child restraint law, the cost was \$5 per car, or \$15,000 per survey. Tennessee's surveys included 400 observations at each of six sites. He pointed out that other techniques could be used that would result in lower costs, such as volunteers. It was emphasized that considerable training, involving field trials, is necessary when training observers so that they can make accurate observations.

In responding to a question raised by Joe Westfall from Oklahoma State University, Dr. Philpot suggested that in doing surveys you:

- Don't attempt to link attitude with behavior.
- Don't worry about collecting rural samples. As long as you weight your final observations so that both rural and urban use are included, you will have valid statewide usage rates.